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SOUTHERN FIELD PEA.

A Field Pea of great economical value for feeding live stock, fattening swine, and improving the soil, is extensively grown in the Southern States, which is little known, and less cultivated in the Northern and North-western parts of this extended republic. The plant belongs botanically to the same tribe of the northern field pea, *(Pisum sativum,)* but not to the same genus. Darby, in his "Botany of the Southern States," Torrey, and other authorities, make it a genus by itself, called *Vicia*, from *vincio* to bind. This genus has but two known species, *V. Caroliniana*, (Walter,) and *V. Acutifolia*, (Elliott,) of which there are forty or more varieties. The genus is thus described by Prof. Darby:

"*Calyx* tubular, five toothed, the two upper teeth the shortest. *Style* bent; outside the style near the summit, villous. *Legume* many seeded. *Leaves* pinnate. *Leaflets* in several pairs. *Petioles* extended into tendrils."

It is doubtless indigenous; and from the circumstance of its having been cultivated by the aborigines, it has long been known as the "Indian Pea," to distinguish it from the English garden pea, just as the indigenous maize has been denominated "Indian Corn," to distinguish it from the common cereals brought over from Europe by the first colonists. Under a wise system of farm economy, this American *Legume* is second only in value to maize, from its natural adaptation to the soil and climate of the United States; and from the large amount of excellent forage and seeds that may, with little labor, be produced per acre.

Peas, beans and other pulse belonging to this numerous family, have been cultivated for the consumption of man and his domesticated animals from the earliest ages of which history gives any account; and modern chemical analysis has shown that the seeds of these plants are richer than wheat or corn in flesh forming constituents. The stems and leaves of properly cured pea vines, whether belonging to the European or American genus, are three times as nutritious as the stems and leaves of wheat, rye, barley or oats, for feeding horses, cattle, or sheep. Indian corn contains more oil and starch than either peas or beans; and therefore where the production of fat is the principal object, as in the last feeding of fatting hogs, corn is a little better than peas. For all growing or working animals, for sheep and dairy husbandry, and for making rich manure, or turning in as a renovating crop, the *Vicia* has probably no equal among American agricultural plants. Like the long tap-root of the bean, of clover, lucerne, and sainfoin, that of the cow-pea, (as the plant is called at the South) descends, in a permeable soil, to a great depth. This enables the plant to draw its mineral food from below the surface soil after the latter has been impoverished by shallow plowing, washing, and excessive cropping, without the application of manure. "Old field pines," so abundant at the South, flourish by the aid of that organization which imbibes aliment equally from the deep subsoil and the atmosphere. The foliage of these trees recuperate exhausted land, by covering its naked-

ness with vegetable mould, as they fall and decay from year to year. But neither the mould nor manure formed of pine leaves is half so valuable as mould or manure derived wholly from peas, or pea-vines. The latter are truly as much better than pine straw to feed the hungry earth and strengthen it, as they are to feed and nourish a hungry horse or cow. Every one knows that a bushel of peas and a bushel of sawdust are widely different in their value and alimentary properties; while but few know on what elements and their conditions, this essential difference depends. Without going into a critical examination of this legume in reference to its relative nutritive value, or soluble elements available to form healthy blood in animals, suffice it to say there is no other plant which taken as a whole, including seeds, stems, leaves and roots that excels it.

Whether this southern pea will flourish as well in all the northern States as it does in its natural climate, admits of doubt; although the writer believes that it will grow and ripen its fruit at a lower temperature than maize, which is also a southern p'ant After wheat had been harvested in May, the land plowed, seeded, and a crop of indigenous grass grown and cut for hay in July, we have known the land to be plowed for the *third* crop, sown to cow-peas, and these come to maturity in time to seed the ground again with wheat in autumn, in the vicinity of Augusta, Ga. As the plant requires less heat than corn, it is possible that it may ripen in a climate as cool as that of England, where maize can not be successfully cultivated. Experiment, however, can only settle the question of its geographical and climatic limits. It is already successfully cultivated as far north as New Jersey. Dr. Houghton of Philadelphia, has written two articles on this subject recently, which appear in the January and February numbers of the *Pa. Farm Journal*, in which he states his experience and observations. He says: "The field pea, as I have stated in a previous article, delights in sandy soil, and will grow where clover *will not*, affording a vast amount of foliage, and shading the land completely, on even the poorest soil, without any other manure than a little charcoal, or well rotted muck or peat. Lime, as is well known is essential to the pea, as well as clover, and plaster of Paris is a very appropriate dressing where a crop of peas is desired."

Having for the last eight years been editorially connected with the oldest agricultural journal published in the cotton-growing States, where every variety of this southern plant is most cultivated, the writer is able to say that poor sandy soils, and also the red clay and molatto lands of the south which contain the minimum quantity of lime will grow a better crop of peas than of any other cultivated plant. If naturally sterile soils, and those impoverished by unwise tillage and excessive cropping, would not sprout cow-peas, and bring them to maturity, this legume would be worthless to impart fertility to the "old fields" of the planting States. Like all other food-plants, it grows vastly better on rich land than on poor; but on a soil so barren that not more than from three to four bushels of corn can be matured per acre, from six to eight bushels of peas may be grown. It is the usual practice to plant or sow the latter at the last plowing in June in standing corn. Cultivated in this way, the pea-vines rarely make much growth until after the corn ripens, and ceases to draw on the earth for its organizable ingredients. As they approach maturity, corn plants shade the peas less, and the vines bind themselves like northern pole beans round the stalks of corn, and where the soil is rich hang off in clusters. No more peas are usually gathered than are wanted for seed; the crop being either cut and cured for hay, or more generally consumed by all kinds of farm stock in the field.

Dr. Houghton, writing from southern Virginia, says: "As a broadcast crop after grain, in the South, to be turned under in the fall, or as a broadcast crop in Pennsylvania and New Jersey, to be turned under as a manure, or fed to stock in the field, it is one of great value. The season is too short with you to get a good crop of vines after wheat or oats, the same season. But in Virginia and farther south, this is done with great advantage. I saw a field near Richmond, a few days ago, on which wheat had been raised with a large increase of grain, every year for three years in succession, and now in wheat for the fourth year with a fine show of blades; and this was in some degree attributable to the fact that as soon as the wheat was removed, peas were sown broadcast, and produced the same season a rich and heavy crop of vines, partly seeded, which were turned under in preparing the ground for the next sowing of wheat."

Dr. Cloud of Alabama, a planter and editor of an agricultural paper called the *Cotton Planter*, urges the cultivation of the field pea in conjunction with cotton-culture, as well as with corn. As he is regarded as high authority, we will copy a few of his statements: "In this cycle of rotation, and shift of crops which I practice, there is afforded in the first place

every necessary means for improving the fertility of the land. Another striking feature about it, and not the least recommendatory of it is the amount of rich pasturage it (the pea) affords for stock. I regard this as among its highest recommendations. Stock can not be raised successfully or advantageously without *pasturage* in addition to well filled cribs of grain. This crop should always be laid by early, and peas, the common cow pea, or some of its varieties, sown broad-cast over the land, and plowed or harrowed in, which adds very materially to the value of the pasturage, as well as improves the condition of the land. * * * Under this system, or any one like it, furnishing the amount and value of pasturage it does, the raising of stock, mules, hogs, and cattle necessary to supply the wants of the plantation, becomes a source of absolute profit—the land is made rich and continues improving in the production of the elements of fertility—the compost manure is made valable, because it is trod up and mixed with the excrements of stock kept fat on rich pasturage. * * * The red man of the forest and the pioneer white man tell us that they found the wild oat and native grasses waving thick as high as a man's head, and so entwined with the *wild pea-vine* as to make it difficult to ride over this country. Every cotton-planter has heard of these fine primitive pastures, and many have seen them. If the country or climate has been cursed by our appearance as planters here, it has been in the wasting system that we have introduced, and continue to practice."

As the growing of peas in connection with cotton is much less practiced than with corn, it may not be amiss to give the results attained by Dr. Cloud. He says:

"Cotton thus treated matures earlier, feeds and fruits more rapidly, being strong and healthy, and is less affected by insects, lice, rust, or the worm. Of course, then, it opens earlier, and may be gathered to better advantage and in better order. It also affords a greater degree of certainty for a fair crop both to the land and hand. This is the result of causes both legitimate and philosophical: first, the land is provided with the food in proper form and quantity which the plant requires to bring it early to maturity: again, there is time and opportunity afforded to prepare the land for the reception of the seed, and the mode of seeding also acquires a stand, perfect, regular, and uniform throughout—by perfect, I mean the mathematical arrangement by which the hills or stalks of cotton are so placed on the land as to feed equally, grow uniformly, and at maturity fill up the land completely."

There are as many ways of cultivating the Indian pea for forage and its seed, as there are of growing corn for soiling and its grain. Mr. James L. Gober, of South Bend, Arkansas, recommends the following plan in the April number of the *Southern Cultivator:* "The pea-vine is an article of great value to the Southern man, whether he be farmer or planter. I have never found any production yield at the South so abundant a crop as the cow pea. Sow as soon as you think the vine will escape the late spring frost, from two and a half to three feet apart in the drills. When the vine grows to the length of three or four feet, sow another row in the middle of the former one; after which pull up the peas first planted, putting them in convenient bundles for stacking—I do not mean to tie them. During the morning, and after they have wilted sufficiently to prevent them from breaking, which will be in the afternoon, commence stacking them in the following manner: Cut a pole ten feet long and from four to six inches in diameter, and bore with a two-inch auger a line of holes eight inches apart, through which long arms or pins are to be driven for holding and curing the vines. Another line of pins or arms may be put in the pole to cut the first at right angles. Hang wilted pea-vines on each arm commencing at the lowest and filling them regularly up to the top; cover the stack with a cap of straw or corn fodder."

One that has barn-room will place all good forage under a roof as soon as it is well cured.

As to the quantity of seed to be sown, drilled, or planted, to the acre, it ranges from a peck to two bushels, according to the notions of the planter, the price and scarcity of the seed, and the strength of the land. Less seed is required in hills among corn than in drills; and less in drills than broadcast sowing.

For a field crop in a large way, and especially in the absence of a good drilling machine, they should be sown broadcast, and covered with the plow or cultivator, just as good Northern farmers put in English peas. If the land is badly cultivated, or full of grass or weeds, no one has a right to expect any other than a bad, small crop. The stem of every variety of the *vicia* is more woody, like that of common beans, than European pea-vines, which are softer even than red clover. The *vicia* also resembles the bean in the length of its legume or pod, which in some varieties contains ten or twelve seeds or more.

THE STUDY OF AGRICULTURAL PLANTS.

In Professor Johnston's *Experimental Agriculture*, pages 22 and 23, may be found the following suggestive remarks: "That even when a soil upon chemical examination yields nothing to water, or even to concentrated muriatic acid, the roots of plants have been found by experiment to be capable of extracting from it lime, soda, magnesia, and other substances which are necessary to their growth. This is believed to be owing to the decomposing action of water and carbonic acid in the soil, by which its rocky particles are decomposed and resolved into their constituent parts, and thus made to yield them in a soluble state to the roots."

Many observing cultivators, seeing agricultural plants obtain all those minerals which form their ashes when burnt from a soil so thin as apparently to yield no potash, lime, magnesia, or soluble flint to growing crops, have thought that their roots were endowed with some electric, galvanic, or magic power for the due extraction of their natural aliment It will be seen, however, that Prof. J. ascribes no chemical or other power whatever, to the roots of plants which may aid them in providing their necessary food. When they obtain lime, soda, potash, and magnesia from the silicates of these bases, which are not only insoluble in pure water, but also in concentrated muriatic acid, these insoluble minerals are decomposed by carbonic acid and water, forming carbonates of the alkalies and alkaline earths named, which are soluble in the same kind of water that decompounds the insoluble silicates. Agricultural plants, in the opinion of scientific men who have investigated their powers and functions with great care, can not effect any chemical changes in the soil, except as their roots, stems and leaves may decay and thereby generate water and carbonic acid. More weight of renovating plants, to form a rich vegetable mold, should be given to soils that lack carbonate of lime, magnesia, and the alkalies, with a view to act on the insoluble silicates of these bases than would otherwise be required. In other words, the amount of vegetable matter really needed in a soil depends in a great degree on the condition and character of its earthy minerals. Lands rich in sulphates, phosphates and carbonates of lime, potash and magnesia, often yield large crops of wheat, with no more than one or two per cent. of organic matter; while soils whose phosphoric and sulphuric acids are combined with iron and alumina, and whose alkalies and alkaline earths are chemically united with flint (silicic acid) need from seven to ten per cent. of organic matter to render them moderately productive. These facts explain and reconcile in some degree the mineral theory of Liebig with the humus theory of Mulder. Both are right under certain circumstances favorable to the peculiar notions of each, and both are wrong when the condition of the soil is adverse to the peculiar notions of either.

Agricultural plants in the form of *manure* deserve far closer study than farmers are in the habit of giving them. Manure is one of the essentials on most farms, and how to produce it in abundance is a question that involves the consideration of all plants adapted to the purpose. Corn-plants, clover, and turnips are capable of making cheap and valuable manure, when fed to domestic animals. There are many other plants adapted to the economical production of food for stock, and the raw material of luxuriant crops. Peas draw largely on the resources of the atmosphere for their nourishment, and thereby enrich the soil, if their organized elements be added to it. Peas, beans, clover, and other legumes are rich in nitrogen, and yield much ammonia when they rot. Experience has proved ammonia to be the most valuable fertilizer known to agriculture; and those plants and seeds, roots and tubers which yield the most of this substance are most valuable food for man and beast.

LIQUID MANURE CONVERTED INTO MILK.

The *London Agricultural Gazette* of March 12th contains a lengthened editorial, which concludes in these words: "The fact, for so it is, that Mr. Telfer keeps forty-eight cattle on seven acres of Italian rye-grass during five and a half months of a year—that from seven Scotch acres, five and a half-twelfths of the whole annual produce of his dairy are in this way derived—that five and a half-twelfths of the 30,660 gallons of milk which he obtains, *five and a half-twelfths of the two thousand pounds* and upwards for which that quantity of milk would sell in London, were obtained by these bulky dressings of dilute liquid manure from seven Scotch acres of land—does, we think, justify the expectation that some method of turning our sewerage to a profitable account, will yet be found."

The growing scarcity of good milk in American cities and villages,—its importance in every family, as well as its value to those engaged in the manufacture of butter and cheese, render its economical production a matter of general interest. Cows may be kept to any desirable extent, if their owners have the skill and means required to grow grass enough on

seven Scotch acres to feed forty-eight cows five and a half months. In a word, it is only by saving the fertilizers now wasted in villages and cities that pure and cheap milk can be obtained by their inhabitants. In the best managed dairies on the continent of Europe, the liquid manure of a single cow a year is said to be worth ten dollars; nor is this an extravagant estimate, for the quantity voided is very considerable. Now, instead of allowing more than a moiety of this to run to waste, and depasturing stock on fields so poor that several acres barely suffice to support one cow in *half keep* to yield the maximum of milk, how much better it would be to make the land rich by carefully saving and applying the needful manure? Not only Italian rye-grass, but Indian corn, clover, and other forage plants will turn out prodigious crops for the production of milk and flesh, provided one uses proper means in reference to soil and culture Liquid manure is always available food for growing plants; and on that account, it may be transformed into new milk in a few days after it is applied as a top dressing to grass or green corn. Seasonable irrigation renders the dairyman almost independent of injurious drouths. But if circumstances prevent his enjoying the advantages of much diluted manure—combining irrigation with manuring—let him at least manure his pastures and meadows which are expected to keep his live stock. The neglect of grazing and meadow lands is one of the most prominent defects in American husbandry. Plain truth is easily told; they need a great deal more of the food of plants than they receive. Sooner or later, this fact will be generally acknowledged, and made the basis of a wiser system of farm economy. Cow-yards open to all the rain that falls in spring, summer, and autumn, to wash away the droppings of stock, will be unknown in this country. All wash-water, soap-suds, and house-slops of every kind, leached ashes, bones, old leather shoes and boots, and woolen rags, will be husbanded for their great value as manure. It is not in large towns alone that fertilizers are thrown away; the practice prevails in all rural districts as well. Almost every farmer might easily double the profits and value of his farm by enriching his soil, and cultivating it better. The first thing is to give the land more of the essential elements of crops.

To Destroy Rats or Mice.—Mix flour of malt with some butter; add thereto a drop or two of oil of anise-seed; make it up into balls, and bait your traps therewith. *If you have thousands*, by this means you will take them all.

BONES IN THE SOIL.

Professor Voelcker, of the Royal Agricultural College of England, has recently made some analyses of soils, which indicate at once the importance of such investigations, and the value of bone earth in all cultivated lands. Every one at all acquainted with agricultural chemistry knows that nearly one-half of the ash of the seeds of wheat, maize, and other cereals, is phosphoric acid. The earthy part of bones consists mainly of this acid in combination with lime; and it matters not how much lime be present in a soil, if phosphoric acid be lacking, corresponding infertility is inevitable. In the chalk districts of England there are fields cultivated in wheat, where 100 pounds of mineral earth turned up by the plow contain 95 pounds of carbonate of lime. *Stone brash* of this character, which lies geologically on the "great oolite formation," yields an average of twenty to twenty-eight bushels of wheat per acre; and of barley of thirty to thirty-five bushels. It contains a small fraction over one per cent. of soluble silica; less than one and a half per cent. of alumina; and 124 parts of phosphoric acid in 100,000. Land of this description rents at from fourteen shillings to twenty-five shillings (English money) per acre. Stone brash on the inferior oolite, although containing more good clay and soluble silica, and only about eighty per cent. of carbonate of lime, brings only about half the annual rent received for the kind above described. To a superficial observer, the brash on the inferior oolite appears the better soil of the two, and why it was less fertile was a mystery, till Dr. Voelcker analysed both, and found in 100,000 parts of the inferior oolite brash but 7 of phosphoric acid. If carbonate of lime or chalk would suffice to form the earthy part of bones, and the ash of the seeds of plants, then this lack of phosphoric acid might not impair the fruitfulness of the soil. But there is no other substance in nature that will perform the office of this peculiar acid; and its economical value in the growth of agricultural plants and animals is above all price.

In another kind of brash, called "*corn brash*," from its rare productiveness of wheat and other cereals, Dr. V. found 177 parts of phosphoric acid in 100,000. It had over eighty per cent. of carbonate of lime; less than three per cent. of alumina; and less than five per cent. of insoluble silicious matter. It had, however, over one per cent. of soluble silica. This land pays an annual rent of from one to two pounds per acre, and yields from twenty-five to thirty bushels of wheat.

It is only by very minute researches into the condition and chemical constituents of arable fields that one is able to understand the causes of barrenness and of fruitfulness. The unwillingness of farmers to foster the study of Bones in the Soil, although most intimately connected with their success in stock-growing, dairy-husbandry, and grain-culture, is one of the marvels of the nineteenth century. While science teaches them that one kind of limestone and one kind of earth has twenty times more of the raw material for making bones than another, experience in tillage informs them that the soil that possesses the least bone earth is least productive. Different strata of rocks, from the abrasion and comminution of which soils are formed, contain very unequal quantities of fossil animals and fossil dung, and of course give existence to land of very unequal fertility. Rocks rich in the remains of mollusks, like the shells of oysters and clams, may abound in the carbonate of lime, but lack the phosphate; while strata rich in the remains of testacea and crocodiles, having boney skeletons, yield soils that abound in the phosphate of lime. The earthy substance, called *coprolites*, which is the fossilized dung of ancient and extinct reptiles, mingled, perhaps, with that of other animals, is now somewhat extensively manufactured into superphosphate in England, being ground and treated with sulphuric acid for that purpose. Bones are too much neglected in this country.

THE STUDY OF SOILS.

If most farmers were asked how many pounds of water a cubic foot of well tilled loam or clay ought to absorb, and will hold without dripping, they would be unable to give a satisfactory answer—never having made the capacity of soils to hold water the subject of special inquiry. Such an investigation, however, is desirable, because a soil which has a small capacity for imbibing moisture and retaining it, lacks one of the most essential elements of productiveness. According to the trust-worthy experiments of Prof. Schubler, a cubic foot of fair, arable soil, being a mixture of sand, clay, and vegetable mold, will take up 40.8 pounds of water; silicious sand absorbs only 27.3 pounds; sand derived from limestone rock has a somewhat larger power of holding water, namely, that of retaining 31.8 pounds. Stiff clay, suitable for making brick, imbibes over 41 pounds to the cubic foot. Fine lime takes up still more water, or 47.5 pounds; and fine magnesia a still larger quantity, or 62.6 pounds, which is within a fraction of the full weight of a cubic foot of water. Magnesia in a fine powder, is very light, and displaces very little water. Rich vegetable mold is exceedingly hygroscopic, which tends to increase its fertilizing power. Another important feature in such mold is the quantity of organized nitrogen, or of ammonia contained therein. Dr. Anderson, chemist to the Highland Agricultural Society of Scotland, has published in its journal some interesting analyses of the organic elements in soils. 100 parts of an excellent wheat soil from Midlothian gave 6.787 parts of combustible matter, which had the following composition:

Carbon	4.500
Hydrogen	0.213
Oxygen	1.806
Ammonia	0.268
	6.787

The above figures are interesting, as showing the amount of oxygen and hydrogen given off by the decay of the leaves and plants from which the mold was, doubtless, derived. Before they began to rot, or *eremacausis* commenced, they contained about as much of the elements of water in an organized condition as of carbon; while in the mold analyzed, the oxygen and hydrogen taken together make but little over one-fourth of the mass. All vegetable and animal substances that slowly decay to form mold in the soil, part with the elements of water (oxygen and hydrogen) in the process, and turn dark colored, or black, from the excess of carbon, or coal, that remains. An acre of soil, estimated to the depth of ten inches, weighs not far from one thousand tons; and as a thousand parts of the above soil contain two and six-tenths parts of ammonia, an acre would possess over two and a half tons of ammonia within ten inches, provided the organic matter extended equally to that depth. Dr. A. treated the first ten inches as "surface soil," and all below be regarded as "subsoil."

The quantity of carbon and ammonia in cultivated land has been very little studied; and yet, ammonia is universally recognized as the most valuable substance in stable manure; while carbon which imparts a dark, rich color to loam, plays an important part in the economy of vegetation. Good soils contain from twenty to sixty tons of carbon to the acre. It will be seen that two-thirds of the mold analysed by Dr. Anderson is carbon. This is derived exclusively from plants and animals, in a solid form.

The incombustible elements of soils are mostly flint or silicious sand, alumina, (the basis of clay,) and iron. To these should be added the alkaline earths, lime, and magnesia, the alkalies potash and soda, and the mineral acids formed of phosphorus,

sulphur and chlorine; the last named by the addition of hydrogen, and the former by uniting with oxygen.

Soils derived mainly from primary rocks, (granite and gneiss) *in situ*, are apt to contain a large excess of coarse sand. Soils of this description abound on the Atlantic slope of the Southern States from Maryland to Mississippi. The "Drift" formation that covers so large a portion of the area of New England, New York, Pennsylvania, Ohio, and other Northwestern States, is wholly wanting in extensive districts in North and South Carolina, Georgia and Alabama. This wide difference in the origin of northern and southern soils has great influence on the farm management of the two regions. When duly investigated, agricultural geology explains many problems in rural affairs that appear to some quite incomprehensible. A system of tillage and husbandry which is best on one kind of soil and in a particular climate, may be not at all adapted to soils of a different origin and character, even where there is no change of climate. This should lead writers on agriculture, and cultivators in different sections of a continent to be more charitable toward each other, and less ready to condemn practices of the necessity or propriety of which they know little or nothing. Soils formed of disintegrated rocks in their native places are entirely different from any drift soils, or those derived from tertiary or quarternary deposits. In all the latter, the earthy minerals are ground down to an impalpable powder, more or less, by the mechanical action of moving water. This dynamic force has never been similarly applied to the former.

MARLING.

The *Journal d'Agriculture Practique* (French) in an extended chronicle of husbandry for 1854, in France, says:

"The marling of lands and mixing corn with lime (*chaulage*) have become of general use and continue to agricultural operations of the greatest utility. According to the request of several of our subscribers, we have prepared designs of a lime kiln, and we shall publish instructions on this subject very shortly."

English and French cultivators have very correct ideas of the value of lime in agriculture; but can we, in truth, say as much of American farmers? In western Europe, "marling is in general use;" but such is by no means the case on the continent west of the Atlantic. Is our soil naturally more calcareous than that of France? No, it is not. The geology of France shows it to possess less granite and freestone rocks than may be found in New England, in the Middle, and in the Southern States. Until the last few years, France has grown more bushels of wheat than England and the United States put together. The high price of meats, and the extended culture of sugar beets have operated to limit the production of breadstuffs. The *Journal* gives this glowing picture:

"If an example of what agriculture can do when successfully managed were needed, we might cite the beautiful and industrious *Department du Nord*, whose entire riches depend upon the cultivation of the soil. On leaving Sille or Valenciennes are we not struck with admiration at witnessing on all sides the air obscured by the smoke of the manufactories of various kinds—manufactories for sugar and for endive (*chicoree*) breweries, distilleries, &c., almost piled on top of one another in every village? On the highways, where it not unfrequently is difficult to get along on account of the number of wagons, cereals, sugar, alcohol, manure, lime, coal from the pit, and black cattle, are busily transported. What life, what cheering animation! Then on the farms they maintain three or four times as many cattle as with us, for the pulp of the beet-root enables them to feed stock and make manure at a cheap rate. There is never any respite for the laborer. Farming operations need his arms every day of the year, and this work is more useful to him than if he were building palaces; for in augmenting the riches of the ground he is increasing his own wealth. If the whole of France resembled this beautiful district, our country would be the first in the world. Why then seek elsewhere new countries? Wherefore favor the emigration of those hands of which the mother country stands so much in need? We think that there is now enough at home for *seventy millions* of inhabitants. The benefits arising from the manufacturing of sugar have produced this result in the North. From the day on which French agriculture shall have become prosperous—and this end it will attain by producing meat—it will bring forth miracles."

The production of "meat" gives an abundance of manure, and this in turn gives a vast quantity of grain and sugar. Marling is the most economical way known to the most advanced husbandry of fertilizing both pastures and meadows. Scientific farmers have been years trying various experiments with all sorts of "amendments;" and shell marl that contains one or more per cent. of phosphoric acid pays best, all things considered, according to the cost of the article. Coprolites, the fossil dung found in England, and so much sought after, owes its agricultural value to the phosphate of lime which it contains. The elements of crops and the principles of tillage and husbandry are the same on both sides of the Atlantic.

All men need truth as they need water; if wise, they are as high ground where the springs rise; ordinary men are the lower grounds which their waters nourish.

THE PRICE OF BEEF CATTLE.

We again call attention to the state of the cattle market. High as were the rates of three weeks ago, they have increased since then, and it is but a few days since beeves sold at $90 to $180 a head, averaging $100 each. In fact all the best bullocks sold at rates equal to fifteen cents a pound. This is the highest market ever known in this city, and probably in any other of this country. The cause must be apparent to every one; the supply is not equal to the demand. The average weekly consumption last year was 3,257, and the supply this week is only 2,054 —1,203 below the actual demand. The supply last week amounted to but 2,174, and with a single exception, the weekly supply has been below the average since the first of January. Choice cuts of beef will be retailed this week at twenty-five cents a pound, and how long those who buy to eat and eat to live can bear this, remains to be seen. It unfortunately happens that the price of mutton is even greater in proportion than that of beef, and thus is absolutely beyond the reach of many.

There is but little hope of any immediate improvement in these prices to the consumer, as there is at present an actual scarcity of beef cattle throughout all the country. The drain to California during several years, the former low prices in the West, before the introduction of railroads, and the neglect of farmers to raise cattle to meet the increased demand which railroad facilities occasioned—these causes, taken in connection with the recent drouth and consequent increase in the price of corn, have combined to produce the present condition of affairs in our markets. And that they are not likely to improve soon may be gathered from the statements made by Western and other papers with reference to the falling off in the numoer of cattle which has taken place. Ohio papers state that in the county of Trumbull there were 23,000 cows last fall, and at the present time there are only 18,000. There have been lost during the winter and spring five thousand.

What is true of that county, is probably true of many others in all the Western States. The inevitable result of this scarcity of stock will be the continuation of the present extraordinary rates; and those who begin to think they can not afford to eat so much high-priced meat, had better turn their attention to find some other substance for food. It is to be hoped we have now reached the highest figure of extravagant prices, but we need not hope to return, in our day, to the low prices which were formerly seen in this city.—*N. Y. Tribune.*

The high prices paid for both *meat* and *bread* ought to admonish the public of the necessity of improvement in the production of these articles of universal consumption. They sell at extravagant rates, mainly because the land that furnishes annual harvests to consumers is steadily deprived of the constituents of grass, grain, and the flesh and bone of animals, so largely wasted in cities. Had the public given back to the soil during the last twenty years a fair return of manure for all the crops grown and all the elements of fertility washed out of the tilled earth in consequence of tillage, the supply of breadstuffs and provisions would be fully equal to the demand in every city in the Union. But as the natural resources of the soil are consumed, and no adequate restitution made, it really costs more and more every year to grow any product of American agriculture. There may be a few exceptions to this general fact, but they do not in the least impair its importance. The nation is consuming not alone its food and raiment, but the very *power* and *life* of the soil also; so that its capacity to feed and clothe mankind is steadily diminished. This fact, however, does not as yet operate to prevent, to any sensible degree, the rapid increase of population. Consumers still multiply; while the raw material of crops, in all meadows, pastures, and plowed lands, is reduced both in quantity and quality. Nor can this exhausting practice be corrected before the whole people are made to suffer long and severely for their extreme folly. In his latest work on the relations of chemistry to agriculture, Liebig says: "I feel most fully that *to know* is not *to be able;* and that to the actual establishment of a *new* science, a *new* generation only is adapted." There is equal point and truth in the above remarks. The present race of producers and consumers will continue to the end of their existence to ascribe the decrease of grass, live stock, grain, &c., as compared with population in all the old states, to every possible cause but the true one. To admit the general neglect to feed the land which feeds all and clothes all, would be a popular confession of both error and ignorance—a kind of acknowledgement never yet made by the popular mind. Hence it rejects the new agricultural science taught by Davy, Liebig, Buel, and others. If beef steaks were sold in New York at fifty cents a pound, and flour at twenty cents, because the denizens of the great metropolis take everything from American soil and give nothing to it in return, they would not recognise their obligations to their mother Earth. Nor would cultivators generally think it necessary to keep a true account with every rood of land, that they might preserve an exact balance in organic nature. The momentous idea of giving to the ground as much potash, soda, magnesia, lime, chlorine, sulphur, phosphorous, carbon and ammonia as is removed therefrom by live stock, by tillage, and in crops harvested, has no existence in the public understanding. It really believes that if the inhabitants of a county or a State return to the land one pound of bones to one hundred pounds removed, the grazing lands of

said county can never depreciate in value for agricultural purposes. It is *such* manuring—returning to the soil one atom in one hundred of what it parts with—that makes the great staples of the country so high, intensified locally by local incidents of various kinds. Let us not be understood as saying that this system of deterioration is near its final catastrophe, for it is not.

PROFESSOR LEE.

For the last few weeks, we have listened with much interest to Dr. Lee's Lectures on the Science of Agriculture. His lectures prove him to be well versed in Botany, Geology and Chemistry—the three sciences most intimately connected with Agriculture, an accurate knowledge of which is indispensable to success in farming on scientific principles.

Dr. Lee has consented for his introductory lecture to be published in the agricultural papers, so that the public may have an idea of the objects of the Professorship. In this Lecture will be found a statement of facts, which are to be thoroughly examined, and commented upon, in future lectures. The State of Mississippi is endeavoring to establish an Agricultural Professorship in its University. We hope it will; and that Agriculture, the parent and most useful of all occupations, under the dignified title of a science, will be studied with more interest and attention.—*Georgia University Magazine.*

On our return to the *Genesee Farmer* Office, it may be permitted us to say that Agricultural Education is making considerable progress at the South. Nor can we well restrain the expression of our deep regret that this educational interest at the North has suffered, and is likely to suffer so much by the unexpected and untimely deaths of the late John Delafield of this State, of the Rev. Mr. Fox of Michigan, and of Professor Lathrop of Wisconsin. Had the valuable life of the first named gentleman been spared, he would have had by this time his Agricultural College in successful operation. The labors of Messrs. Fox and Lathrop are known to many of our readers and remembered with gratitude.

In the recent decease of C. P. Holcomb, Esq., of the State of Delaware, agriculture and the scientific education of young farmers, lost an influential and devoted friend. He was one of the first men we applied to for aid in getting up the United States Agricultural Society; and at our request, he drew up its Constitution, which was adopted at the first meeting in Washington of the earnest friends of agricultural progress. If we are not misinformed, $30,000 has been raised in little Delaware to be devoted to agricultural education. In Maine, the good work has made some progress; and in Pennsylvania there is a promise of success in the same direction.

IMPROVING STOCK.

We commend the attentive perusal of the following extract from an agricultural report of the county of Perth, (England,) to all who desire to improve their stock. There is a much closer connection between kinds of stock that may be profitably kept, and the quality and productions of the soil than many are aware of:

"There is one circumstance relative to the introduction of new breeds, which must not be passed over in silence, because no farmer can neglect it without a certain loss. Every kind of pasture is fitted to raise animals to a particular size; when beasts of a larger size are brought in than the quality of the food is calculated to support, these animals, whether cows, horses, sheep, or any other kind, will degenerate apace, and never prove useful until they come down to that standard or size adapted to their situation and suited to their food. On the other hand, when a smaller breed than ordinary is brought in, they continue to increase in bulk until they come up to the pitch which is suited to their nourishment. But there is this remarkable difference betwixt the two progressions in respect to profit, that in the retrograde process, where animals are brought from rich pastures and a comfortable situation to the reverse, they are in every instance worse than the indigenous breed; whereas the animals which are brought from worse to better, continue to improve till they arrive at that perfection which the change in their situation is calculated to produce. These causes may not immediately have their full effect, but in a few years they certainly and evidently will. He makes, for this reason, a much safer experiment who brings cattle from worse to better, than he who brings them from better to worse."

FARMING IN POTTER CO., PA.

The following is an extract from a letter received by us a short time since, in relation to the farming operations in Potter Co., Pa.:

Mr. Editor:—Of the fruit at home I cannot speak, but the peach around this place does not appear to have suffered either in tree or bud.

The unimproved lands of our county range from $2,50 to $5. Upon the portion known as the Bingham Lands, comprising originally about 250,000 acres, located in the north half of the county, and embracing a large majority of the settlements, I do not think a farm could be located for less than $3 per acre. Improved farms however, can be bought for $10 to $15 per acre, a few have sold higher than this, but I speak of the average rate. If a few farmers of the right stamp, who are about to change their location, could be induced to turn their attention this way, we might soon rival Orange County of your State in her dairy productions.

Timothy and white Clover seem almost indigenous, and the large red Clover thrives well wherever it has been sown; but the majority of our farmers have been crippled by debts coming into the county when it was new, knowing little or nothing of the true principles of farming, and their farms even now not paid for; they have become discouraged and do nothing that is not necessary for an immediate return. Fruit trees of course were not planted, and there are now but few orchards in the county, those few have prospered finely. We have not therefore tried the New York market, for we have a market now in the southern and western part of the county, for more than all the produce raised in the county—prices here are as high and in some instances higher than in New York city—though this would not be so, if our farmers were systematic and thorough in their operations.

Respectfully yours, JNO. M. HAMILTON.

COWDERSPORT, PA., March, 1855.

PEA BUG.

MR. EDITOR:—Seeing an inquiry in the FARMER, like this—What can be done to get rid of the pea bug? I send by mail two packages of peas, sown the first of June last, not too late, as you see, for the peas to ripen, but too late for the fly to affect them injuriously. If farmers and gardeners would feed out all the early peas as soon as they get too hard for the table, and sow the first of June for seed, the pea bug, in my opinion, would soon become extinct.

Yours, truly, G. W. H.

SPENCER, March 1st, 1855.

REMARKS.—The packages alluded to above, came safely to hand, and a close examination failed to reveal any trace of the insect. We have noticed directions to escape the ravages of the pea bug by late sowing, and are happy to learn that our correspondent finds it an effectual preventive.

CASE OF GARGET CURED.

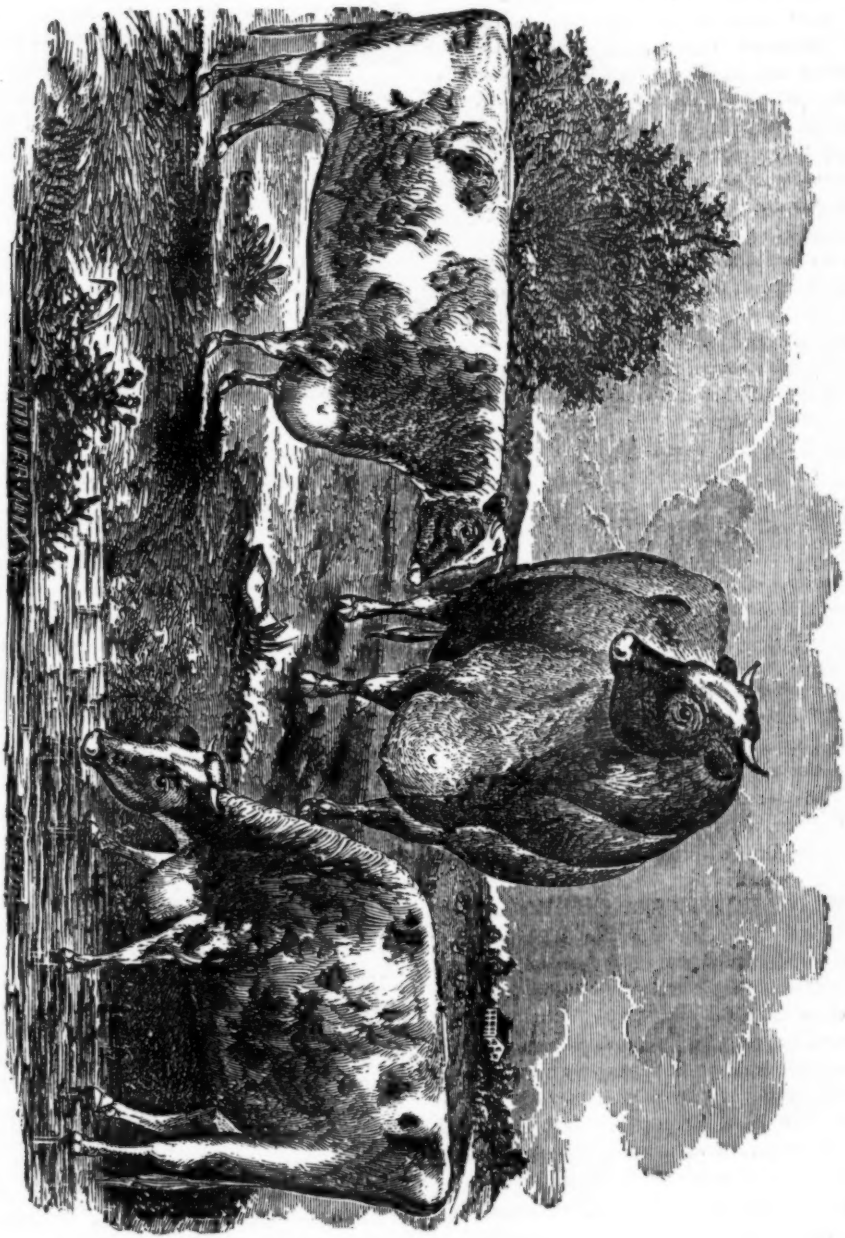
MR. EDITOR:—I am under great obligations to your paper, as it has preserved for me a valuable cow that had the garget. In the January number of the FARMER I found an article on the treatment of this disease, and followed the prescription as to the medicine used, but having read and practiced medicine as a profession until forbidden by my own health, I determined to make an impression on the system at once, and so gave about one dram at a dose, once a day, in common shorts;—it having been dissolved in a teacupful of water and thrown into the shorts—adding water sufficient to form a paste. I followed this course a week, when the cow refused to take it; after two days I again commenced with scruple doses, and still continue to give it. The disease retreated speedily to one teat, where it seemed to make a final stand, in the shape of a hard tumor, as large as a hen's egg. At the present time it has diminished to one fourth the original size, being flat, and apparently not thicker than a cent. Yours, J. D., M. D.

GATES, N. Y.

IMPROVED SHORT-HORNS.

JUST so fast as the soiling and stall-feeding of neat cattle extends in this country, will the breeding of Short-horns find substantial favor with the public. No other breed comes forward quite so rapidly, and reaches maturity at so young an age. This is an important advantage in the manufacture of good beef, for *time* is money in all operations where capital and labor are to be turned over for an expected profit. But these thorough-bred cattle having been pushed and pampered for many generations, need to be in rich, nutritious feed up to their eyes, or smaller and hardier animals will yield a better return for the food consumed than mammoth Short-horns ever can. Placed in a box, stable, or yard, with cut feed in abundance before them, it is generally conceded that the race, of which our paper gives a fair illustration, has no equals. If this were not so, it is inconceivable how the improved Short-horns could maintain their almost fabulous prices both in England and America, in spite of all competition. It is not our purpose to disparage in the least, either the Herefords or Devons, or any other improved and valable race. In many districts, the Devons are wisely preferred, because being smaller and more hardy, they will flourish on pastures and under privations that would render pure blood Short-horns utterly valueless for the elevation of the native stock of the country. Being ourselves in favor of soiling and sheltering cattle, as far as practicable, that the maximum of unleached manure may be obtained from them, we hope to see the best Short-horn blood extended and cultivated on this continent.

USEFULNESS OF MOWING WEEDS.—In the month of June weeds are in their most succulent state; and in this state, especially after they have lain a few hours to wither, hungry cattle will eat greedily almost every species. There is scarcely a hedge, border or nook, but at this season is valuable, and it must certainly be good management to embrace this opportunity, for shortly they will become nuisances.



IMPROVED SHORT-HORNS.

THE ANGORA GOAT.

Mr. Editor:—In the December number of the Genesee Farmer, I was pleased to see an interesting article from Dr. Davis, of South Carolina, on the Cashmere or Angora goat. I have been much surprised that the Merino, Durham, and other stock fanciers of the North have so long neglected this beautiful and most valuable animal. More than twenty years ago, Commodore Porter, writing from Constantinople to Mr. Skinner, editor of the *American Farmer*, states as follows: "I believe I have mentioned to you something about the Angora goat, and the beautiful silkiness of their hair—finer even than silk, and softer. It is of that they make the Cashmere shawls, which cannot be equaled by any manufacture of silk. The animal itself is a beautiful and majestic creature; and I think the introduction of it into the United States would be highly advantageous to the interest of the country. In the fine fabrics it (the hair) would supersede the use of silk, and I would, if I were rich enough, spare no expense in introducing the breed into our country. * * * However, as I cannot send you the animal, for want of means, I shall send you a skin, and that alone has cost me five dollars. * * * For fear of the miscarriage of the skin, I send you a specimen of the hair. Here is a beautiful substance, finer and infinitely stronger than the finest and strongest silk, growing on the back of a hardy animal, the cost of keeping of which is nothing compared to the cost of keeping a sheep, and the value of the produce per pound is as superior to silk as silk is to the wool of the Merino. The value of a Cashmere shawl here, is from three to four, and some five hundred dollars. The best of the French silk imitations may be purchased for thirty dollars.

"The cost of the introduction of this animal into the United States, would not be much for two or three public-spirited men of fortune to undertake. It would be nothing compared to the expense in introducing the short-lived Merino. The goat is a hardy animal, long-lived, and subject to none of the diseases of the sheep. You may, by the skin I send you, form some judgment of what the fleece would be worth, even at the price of silk; but I assure you that an Angora goat, now in my back yard, has a fleece double the length of the fleece I send you."

Most of your readers are aware, Mr. Editor, that there are extensive districts of hill country in nearly every State of the Union that are of but little value, except for the feeding of goats, these animals always preferring bushes, briers and weeds to the finest grass. In Kentucky alone, millions of acres of such land might have been purchased a few years since (and probably at present) for ten cents per acre. They are covered with shrubbery and vegetation suitable for the support of the goat, for the year round.

Here, then, is a gold mine, which will prove more productive to those who first adventure in it, than the mines of the modern El Dorado, waiting for the enterprising capitalist. If the late financial crisis has killed off our speculators, where are the Livingstons and Wadsworths of your great State?

The Thibet goat may be obtained from both England and France, and the Angora also, as I am informed, can be had from its native country at less expense by way of Smyrna, which port is frequented by American ships. Dr. Davis could doubtless give all the necessary information to those anxious to obtain them.

Besides the Angora and Thibet, the Malta or Spanish goat might be profitably introduced for dairy purposes. M. De Lavergne, a late French writer, speaks of it in high terms. He says: "The goat, when well fed, gives an abundance of extremely rich milk, which may be made into excellent cheese. In France, where all agricultural industries are known, although too often very imperfectly practiced, whole districts owe their prosperity chiefly to the goat. Such is the Mount d'Or, near Lyons, where a goat yields as much as a cow elsewhere."

I observed lately in one of the public papers, that a pair of Angora goats had been sold at Richmond for $1,500, which indicates that the public attention is being directed to this animal. J. Dinsmore.

Boone Co., Ky.

Remarks.—It gives us pleasure to inform our correspondent that most of the valuable goats imported by Dr. Davis, and their offspring have fallen into excellent hands—those of Richard Peters, Esq., of Atalanta, Georgia, who is one of the most enterprising breeders of improved stock in the United States. Besides the pure bloods, he has purchased a hundred or more she goats of the South, (common in Georgia,) and is breeding up through them by imported males a fine flock of half-bloods, three-fourths, and so on, just as the old Merino sheep were once propagated, to work out the native blood. We have seen these beautiful animals at Mr. Peters' residence, and should not be surprised if the silk-goat fever equals in intensity the multicaulis silk-worm fever which raged as an epidemic some twenty years ago.

MILLET CULTURE

Mr. Editor:—Being a reader of your valuable paper, and of late having seen many articles in different papers on the value and manner of cultivating millet, I will give you my experience and the results. In 1851 I had a dairy of forty-five cows, and having been obliged the year before to buy most of my fodder for a dairy of about the same number, I cast about to see if I could not find something that I could raise in the place of hay that I could keep my cows on, and keep them in good condition, and at the same time get a good supply of milk from them for market (as milk dairying was my business). I sowed corn and found it an excellent substitute; but to keep so many cows on it required too much labor, and after mid-winter it became too dry and harsh, and did not give much milk. In '51 I sowed four acres of millet (four quarts per acre) the 16th of June, and had as much fodder as from any eight acres of grass that year—and it was a good year for hay. I have raised from four to eight acres every year since, and have invariably had good crops of not only fodder or hay, or straw equal to as many tons of the best timothy hay, but from twenty to thirty bushels of seed to the acre, equal to as many bushels of corn to feed to any kind of domestic animals. I feed the most of my seed, after having it ground, to milch cows, preferring it to Indian meal, as making more milk and of as rich quality. The last season I had six acres of millet which has been worth more than $50 per acre, or $300 for the six acres. I have fed thirty-five cows on the straw since the 25th of January, and have enough left to last until the 1st of May, and got 120 bushels of seed from the lot. The ripest of the seed, some sixty bushels, I have sold for seed, and the balance I am now feeding to my horses, and find they do as well on the meal put on cut hay and straw as they did when I fed an equal quantity of corn and oat-meal.

Now for the manner of raising it:—I have raised it on green sward, turned over at my convenience any time late in the fall or in the spring up to the time of sowing; I then harrow until mellow, then put on from twelve to eighteen quarts of seed per acre, and as much fine manure as I can spare, from five to fifteen good wagon loads per acre, and sow about the middle of June, and I am sure to have double the amount of hay that the same land in similar condition would produce in meadow. It will stand the drouth better than any other crop I ever raised; in fact, it wants hot, dry weather for it to grow in; if it is moist enough for it to come up, there is but little danger, as the last two years have proved. After the seed is sown and well dragged or cultivated, the ground should be well rolled, as we get a good deal of dry weather about that time, and if not rolled it may be too dry for the seed to grow; but after it is once up, I think there is but little danger of a failure of a crop. The time of cutting that I have practiced is, as soon as I get through with my oats—say the last of August, or when about half of the heads have seed matured enough to grow. The stalk will be green and full of juice. I cradle it, let it lay one or two days to wilt, and stack it up as I do oats, put on a cap, and let it cure in the stack; it will then be as bright as the best toppings of corn, and any animal will eat it as readily as any other forage.

Buffalo, N. Y. T. B. Shepard.

Mr. Shepard has our best thanks for his very practical and timely communication. In most parts of our pretty large country, millet may be sown as late as the first of July, for the purpose of making hay, and yield a profitable return. If seed is scarce, a peck to the acre will do; although finer forage may be grown by applying more, as suggested by Mr. S. Millet is much more grown at the South than at the North, and is highly esteemed.

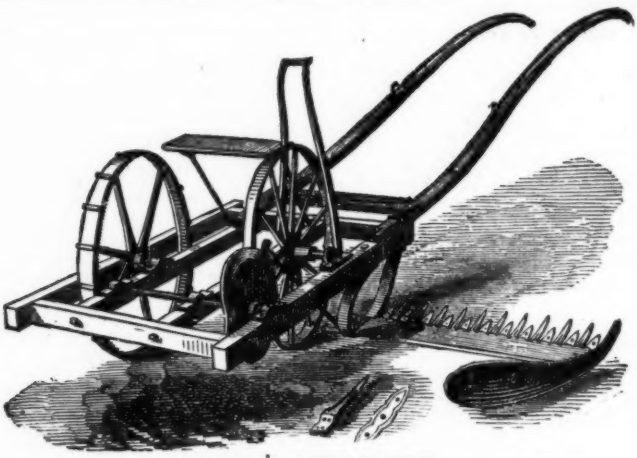
EXTRACT FROM CORRESPONDENCE.

Grain is scarcer here than was ever before known; corn has sold as high as $6.50 per barrel, and flour at $9 or $10 per barrel; and people fear there is not enough grain in the country to last until harvest. The wheat crop looks very promising now, and the spring has been beautiful, but rather dry. The earth has worked better than ever before known. Farmers are now finishing planting corn. The prospect for fruit is very flattering. A large number of hogs and cattle died for want of food; hogs will be very scarce in Kentucky for the next two years. Yours,

Chesher's Store, Ky. A. G. M.

To Keep Bugs from Vines.—For the benefit of your numerous subscribers, I will send you what I have found to be the best method to keep the yellow striped bugs from vines. I have used it for more than thirty years, and have never known it to fail.

Take the feathers from a hen's wing, and dip them in spirits of turpentine, and stick one or two in a hill, and after every shower they will want to be dipped over again.—*Howard Sayre in Country Gentleman.*



RUSSELL'S MOWING MACHINE.

RUSSELL'S MOWING MACHINE.

THIS machine, for which a patent has been secured, consists of a square frame mounted on two wheels, one of them being a heavy cast-iron wheel, from which the motive power is derived; the other, a secondary wheel, placed in the opposite side of the frame, and forward of the main wheel, for the purpose of supporting that side of the frame, preventing the heavy drag of the knife-bar on the ground, and effectually obviating the side draft of the machine. In connection with this secondary wheel, is an apparatus for elevating or depressing the knife-bar. By means of a lever, the driver, while sitting on the machine, may in an instant raise the knife-bar to the height of fifteen inches. It is thus passed over stones or other obstacles without changing the course of the team, and at the proper moment is lowered to its former position. The same apparatus admits of the knife-bar being firmly fixed at any desired point, so that the knives may cut at different heights—leaving the stubble at such lengths as the peculiar surface of the ground, or other circumstances, may render expedient. Motion is given to the knives by means of a cam-wheel, placed on the same shaft with the pinion connected with the main-wheel, requiring only one set of gear to obtain any desired number of vibrations of the knives, from 35 to 48, to one revolution of the main-wheel, thereby making it very easy to graduate the speed of the knives to the natural walk of any horse. Each knife is placed upon the knife-bar independent in itself, moving on a centre pivot by means of an iron rod passing under, and attached to the back end of the knives, giving them an oscillating motion, and effecting a drawing, circular cut. The knives are double—that is, they have a cutting edge at each end, and by removing the cap which secures them in place while at work, any one can be removed and another substituted in its place, or the ends can be reversed, when one edge becomes comes dull. This is equivalent to having a double set of knives always in readiness, to be used without loss of time, as may be necessary. The teeth are so constructed that the driver may stop and start his team at pleasure in the heaviest grass, without backing the machine to clear the knives, or get motion to the knives before striking the grass. The machine makes a carriage of itself, and is moved with as much ease and convenience, from place to place, as a common horse-cart.

The machine is made both for one and two horses—the former cutting a breadth of three feet, and the latter from four feet four to four feet eight inches. The prices are $125 for the two-horse and $110 for the one-horse machine.

The successful operation of this machine has been fully demonstrated, but the inventor was able to bring only a few of them into market last season. These were thoroughly tested, and their superiority made so strikingly manifest, that they received the unqualified approval of all who saw them. The New York State Agricultural Society, at its last exhibition awarded it a silver medal. A similar token, was also awarded by the Hampshire, Hampden and Franklin Society. Hon. J. W. Proctor, Chairman of the Committee of the Essex Society by whom it was examined, speaks of it as follows:

"When I take into view the facility of moving this machine, and of sharpening the knives when one or more of them happen to be dull,—and that it can be operated by the power of a single horse, I think it combines advantages that I have not witnessed in any other mower, and I believe I have seen all which have had any reputation in this country."

The following is an extract from the report of the Executive Committee of the Hampshire, Hampden and Franklin Society, under whose supervision the machine was tried at Northampton, in October last. The place of trial was on the bank of Connecticut River, and the grass of a description which is well known to be very difficult to cut—causing most machines to clog, and requiring the skill of an expert mower to cut it well with a scythe:

"We are happy to say to the Society, that Mr. Fisk Russell, of Boston, offered a mowing machine of his own invention, which the committee were unanimous in the opinion merited your reward. This machine was operated with one horse, cutting a

width of three feet, under most unfavorable circumstances. The grass was second crop, fine, thick, and partially frost killed, which caused it to cut exceedingly hard. Yet, under these circumstances the horse walked with apparent ease, and cut the grass SO CLOSE and PERFECT as to give entire satisfaction to about thirty farmers and mechanics who witnessed the operation. Your committee are satisfied that Mr. Russell has, in a great measure, overcome the great objections made against other machines, being of lighter draft, cuts the grass more even, is less complicated, consequently less liable to get out of repair * * * In conclusion, your committee cannot hesitate to recommend this machine, as a most valuable acquisition to the farmer.

"For the Committee.

"PAOLI LATHROP, Chairman."

B. B. Kirtland, Esq., a prominent officer of the New York State Agricultural Society, and a distinguished farmer, furnishes the following testimony:

"I hereby certify that I used Fisk Russell's mowing machine last season, and cut all my grass with it, to the amount of sixty acres, and have no hesitation in saying that it does its work as well and as rapidly as any other I ever saw, AND WITH MUCH EASIER DRAFT FOR THE TEAM.

"B. B. KIRTLAND.

"Greenbush, Rens. Co., N. Y., March 10th, 1855."

Boston Cultivator.

WEEDS INJURIOUS TO THE WHEAT CROP.

MESSRS. EDITORS—I send you the following, for publication in *The Cultivator*, about the *Lithospermum arvense*, which, in different sections of the United States, has the names of Pigeon Weed, Red Root, Stone Weed, Corn Gromwell, &c.

DESCRIPTION.—Stem, 12 to 18 inches high, much branched, and whole plant hisped, with short oppressed hairs. Leaves, lance-linear, acute, with a midrib. Lower leaves often obtuse. Flowers, solitary, subsessile and axillary. Corolla, white, or yellowish white. Calyx, segments acute, hispid ciliate. Nuts, rugose, ovoid, with the acuminate beak rather oblique. Root, annual.

In the artificial or Linnean System it belongs to the Class Pentandria, order Monogynia, and according to the Natural System, it is placed with the Boraginæ, or Borage tribe of plants. It is a great pest to the wheat crop, by outgrowing and smothering the young wheat in the spring; generally arriving at maturity in Western New York, in the month of June, two or three weeks before the wheat harvest. Its seeds yield a small quantity of oil, being worth at the oil mills from 31 to 37 cents per bushel. But this is a poor compensation for the damage done to the farmer.

It is a native of Europe, where it is frequent in cultivated fields and pastures; yet it does not seem to prevail to such an extent as to do much damage to the wheat crop, since little notice appears to be taken of it by their agricultural writers. Loudon, an English author, in his Encyclopediæ of Plants, merely states that the bark abounds with a deep red dye, which stains paper, linen, &c., and which is easily communicated to oily substances, resembling in this respect the Alkanet root—hence it is often called in England the bastard Alkanet. The country girls in the north of Sweden, stain their faces with this root on days of festivity.

Besides the arvense, there are nine other species enumerated as growing in Great Britain, and in Decandolle's Produmus, we find sixty-five species described, most of which are natives of the old world. The "Red Root," is widely diffused, growing in nearly every part of Europe; it is a native of Northern Africa, according to Defontanes, and was found in Southern Africa by Burch. It grows near the river Euphrates, in Asia, where it was collected by Chesney, and also in Asia Minor, according to Aucher. It has probably been greatly spread by the migration of birds, since many species of birds void their food when they find something that suits them better. Thus it is supposed to have been often spread in this country, and hence one of its names, "Pigeon Weed."

It has been introduced into America, and is already spread through a large portion of the wheat growing states. It grows in the vicinity of Charleston, South Carolina, according to Elliott, and from our Botanical Catalogues, we find that it abounds in Kentucky, Ohio, and the Western States, in Maryland and Virginia, and in Vermont and Massachusetts, and every farmer knows that it is found, more or less, throughout the Middle States. There are five or six additional species growing in the United States, a new species having lately been discovered by Dr. Chapman in Florida. In Yates Co., there are two species, the arvense and latifolium. To return to the arvense—when it has once obtained possession of a field, it is eradicated with difficulty, as its seeds will be in the ground many years without germinating, especially when they are covered to a depth which prevents them from receiving a due proportion of air, warmth and moisture.

It is only by studying its nature that we can arrive at any sure method of exterminating it. Seeds of every description fail to germinate immediately after becoming ripe, if they are covered at a slight depth with moist, warm soil, before they get dry and hard. The Pigeon Weed, or Red Root, ripens some weeks before wheat, and if the season be dry, the seeds, by being deprived of their natural moisture, will not germinate unless they are placed under very favorable circumstances, viz. be slightly covered with a moist warm soil. Its seeds are very hard, hence its botanical name, which is derived from two Greek words, signifying stone and seed, so that they are under all circumstances most difficult of germination. Hence, after the wheat harvest, they generally lie upon the surface of the ground, without germinating, until by subsequent cultivation of the soil, they are nursed into life. It may be, that if they are buried to a great depth, by the first plowing after wheat, and the subsequent plowings are not quite so deep, that they will remain unchanged for years, and the farmer may suppose that his soil is free of the pest, until deep plowing brings them to or near the surface, where the conditions are favorable to their germination. Prof. Lindley, in the third edition of his Introduction to Botany, mentions that he had three plants of Raspberries, which had been raised from seeds found in the stomach of a man whose skeleton

was found thirty feet below the surface of the earth, near Dorchester, in England. He had been buried with some coins of the Emperor Hadrian, and it is, therefore, probable that the seeds were 1600 or 1700 years old. A new kind of Pea has lately been grown in England from seeds found with a mummy, in Egypt, where they had been entombed perhaps thousands of years. There is no doubt but that the seeds of Lithospermum arvense will, under favorable circumstances, retain their vitality without germination during many years. Seeds, to germinate easily, must be near the surface. This is an established law of nature adapted to the circumstances in which most seeds are placed that grow upon the surface of the globe. They grow, ripen, and fall to the ground to be washed into the soil by rains, or commence germinating at the surface and send their roots into the ground. Therefore, to eradicate Pigeon Weed, we would recommend, if the ground be wet, or sufficiently moist, to have it thoroughly gone over with a sharp toothed harrow, early in the fall, succeeding the wheat harvest. That is generally a busy time with farmers, and the harrowing could be done much easier than a shallow plowing. Besides, if the business is well done, the seeds will be covered to the depth which nature requires, and hence they will germinate, and can easily be destroyed by plowing the ground for a crop in the spring. If plowing be done in the fall to cause the seeds to germinate, it should be as shallow as possible, not to exceed two or three inches in depth, and then the ground should be immediately harrowed. This will be very effectual, and by plowing the ground in the spring, the weed will be killed. Another excellent method is to plant the wheat stubble the succeeding spring with corn, well manured, and then sow with barley the next spring. We have remarked that the Lithospermum, if there be any seed in the ground, generally germinates in the fall or corn stubble. By this course, if the manure contain any seeds, they will also be destroyed by the succeeding spring's plowing for barley. If our farmers will practice the above methods, and be careful to have clean seed wheat, they will soon rid themselves of this great pest to the wheat crop.—*S. B. Buckley, in the Albany Cultivator.*

PERUVIAN GUANO.

CONTEMPLATED CHANGE IN THE PERUVIAN AGENCY—INTENDED REDUCTION OF PRICES—A NEW SYSTEM.

We are enabled to impart some information upon this subject, which, until now, has been known only to a very few. It is a matter of deep importance to the agricultural interests of our entire country, and of no ordinary moment to many portions of the world.

During the last session of Congress some effort was made to have a bill passed imposing a slight tax upon Peruvian guano imported into this country or to have the price reduced, in order that consumers might thereby be benefited. The matter, however, was laid aside, through certain influences. It would now seem from information in our possession, that any further effort of this kind will be rendered unnecessary, as the newly-established Peruvian Government contemplates making a radical change, not only in its American agency, but in the mode and manner of conducting the whole business, promising more congeniality to the wants, circumstances and wishes of consumers.

We are pleased also to state, upon indisputable authority, that the price of Peruvian guano, under the contemplated new auspices, will, ere long, be reduced to forty-five dollars per ton. The Peruvian authorities have discovered serious frauds practiced from time to time by speculators in her guano, calculated to bring it into disrepute, as well as to deceive those who purchased and used the article. They ascertained that mixtures or compounds of spurious and damaged guano had been sold repeatedly for the genuine, causing deception and injury to producer, buyer and seller.

For these causes and others, desiring also to deal fairly and acceptably with the American people, and to prevent future similar impositions, Peru has determined to require that all damaged, unmerchantable or adulterated guano shall be sold at public auction, through her accredited agents, to consumers alone. The contemplated new agency, or *modus operandi*, will consist of a chief agent for the United States, who, we learn, has already been designated, with power to appoint numerous subordinate agents and agencies, at all important points—these agents to be native American citizens—and by them, are the entire details of business to be transacted. Sales in all cases made directly to consumers.

When this system goes into effect, any guano offered or sold as Peruvian by persons not belonging to, or connected with the legitimate agency, will be pronounced spurious, and easy of detection. Thus it will be convenient at all times to obtain, with perfect confidence, the approved, genuine article.

We have considered it proper at the present time to acquaint our readers and the public with the facts herein alluded to, as those most interested may eventually, and at no very distant period become participators in the advantages. It is further understood, that the Peruvian government will employ skilled and competent chemical agriculturists, whose duty it shall be to analyze all guano imported into the various States.

These scientific experiments, with such practical information as may be obtained, are to be published in pamphlet form to the extent of one hundred thousand copies, or more, if necessary, and distributed by the various agencies, gratuitously among farmers, and all others interested in the article. This, we are confident, will be productive of much good, and enable consumers more fully and effectually to appreciate the great fertilizer, adapting it to their lands, &c., to the best advantage.

In view, therefore, of this contemplated new regulation in guano, which, we learn, will probably go into effect before long, it might be well for consumers to give the subject their attention. If a better, cheaper article can be had, and in time to suit all purposes, it becomes an object of economy to wait.

Baltimore Patriot.

EVERY one praises the rose while it gives pleasant odor.

EFFECT OF TEMPERATURE ON DAIRY PRODUCE.

The dairy practice in this locality is directed to the sale of new milk and of butter and of skimmed milk. The price of new milk is nearly uniform, being 2d. per quart, that of butter is sometimes as low as 1s. per roll of 24 oz., and sometimes nearly double this. The price of skimmed milk is likewise steady, being generally 1d. per quart. The cause of the fluctuation in the price of butter, with steadiness of price in that of milk, will be found in the comparative ease of the transport of the one as compared with the other; the former is liable to damage by moving, whilst the latter is regularly brought to market by sea and land, hundreds of miles. Butter is brought from Mecklenburg and from the west of Ireland to London. It will then be obvious that the supply of new milk is limited to populous districts, or to such as have gained easy access to them by the introduction of railways. It is in some measure optional in what state my dairy produce is disposed of—in new milk, or in butter and skimmed milk. In giving attention to this branch of farm economy, I was led at an early period to inquire at what price the two processes afforded a like return. After several trials made during warm weather, my cows being on Grass, I found 16 quarts of milk yielded 26 ounces of butter; the quantity of cream varies with the skill or taste of the dairy-maid in skimming the milk, and in proportion as she mixes milk with the cream. I have frequently found a quart of cream to give 14 to 16 oz. of butter, and this is about the average from the cream used for the trial cheeses at the Royal Agricultural Shows. I have, however, latterly, since December, 1854, found my cream much richer, and am obtaining 22 to 24 ozs. of butter from each quart of cream. I can only attribute this to the quality of the food in which Rape-cake and Bran, materials rich in oil, are components; the production of butter is, however, little influenced, being about 26 to 27 ozs. from 16 quarts of milk. The comparison will be—

16 quarts of new milk, at 2d. per quart, - - -	2s. 8d.
16 quarts of milk give a roll of butter of 25* oz., at - - - - - - - - - - 1s. 6d.,	2s. 8¾d.
14¾ quarts skimmed milk, at 1d., - 1s. 2¾d.	
(The butter milk covers cost of churning.)	

Butter is sold here by the roll of 24 ounces; it is customary to make up the roll to weigh 25 ounces, the odd one being in favor of the purchaser. I thus find an equal gain from new milk sold at 2d. per quart, as from butter at 1s. 6d. per roll, and skimmed milk at 1d. per quart. It will scarcely be necessary to observe that with a rise in price above 1s. 6d. per roll, it is my interest to direct my dairy produce more to butter, whilst with a lower price new milk pays better. In the course of a season or two, and towards the close of a year (late in November,) I remarked a considerable falling off in my receipts for the dairy; and as no change had occurred in the number or circumstances of my cows, nor in their food, I was led to inquire into its cause. I found an equal quantity of milk had been brought down to the dairy-maid, a like sum received for new milk, and that the deficiency arose solely from a less quantity of butter. With this change there had occurred a great change in the weather, it having become very cold and frosty. I again tested the quantity of milk, and found the yield of butter 16 ounces from 16 quarts, instead of 26 ounces, as on the former trials: up to this time I had used an under-ground cellar in summer, and a room on the ground floor in winter, during which time this deficiency in my butter occurred. This room is situated on the north side of the house, the in-door opening into my kitchen, where the culinary operations are carried on, and which door was usually kept close by day as well as by night; the room is lighted and ventilated by a trellis window, which gave free access to the fresh and cold air. On trying the temperature I found it something below 40°; it then occurred to me that the deficiency of butter must arise from the too low temperature of my dairy, and an easy means of remedy at once suggested itself, namely:—to introduce with a supply of fresh or cold water a supply of hot water, by an apparatus for that purpose. It so happened that the pipes for both hot and cold water passed through my dairy, immediately under the trellis window, and over the stone table on which my milk bowls are placed. This table is about 2 feet in width, and occupies one side and the end of the dairy in which is the trellis window. I ordered a shallow open cistern to be made of wood, with a room about 3 inches along each side, and lined with thin sheet lead; this cistern thus contained water of 3 inches in depth. At its extremity, and near the window, is a hollow plug, having perforated holes near 3 inches above the bottom, and through which the water escapes as it rises into the common sewer. At the same end of the table, and inside the rim, is a pipe which, being inserted into the one from the hot water apparatus, conducts this to a tap at the other extremity, and then returns along the other side of the table again to the hot water pipe; when the new milk is brought in it is set up warm, and immediately the hot water tap is turned, when the water flows from it and along the cistern, in which the full milk bowls are standing, till it rises to the height of the holes perforated in the tube, and then flows through the same. The tap is is open so long as the supply of hot water lasts; when this is exhausted, and the water in the cistern has cooled, the plug is drawn, and the whole of the water escapes, leaving the cistern empty. At this season the trellis window is closed by a wooden shutter, and the in-door communicating with my kitchen is kept open. By these contrivances my dairy attains a temperature in winter of 53° to 55°. I superintended the experiment when first tried one evening. The next morning my dairy-maid thus accosted me:—"Master, it is quite wonderful this morning; I have more cream from standing one meal (12 hours) than before from three." When the churning day came the result was a yield of butter of 26 ouces from 16 quarts of new milk, being equal to what I had found in summer. Thus from a change of temperature solely, and without any change of cows, or in their food, my quantity of butter was increased 50 per cent. But this is not the only advantage of the plan: I have already remarked that along with the hot water pipe, one with cold water passed through my dairy. At the approach of summer a pipe inserted into this with a tap close by that of hot

* My experiments show 26 ounces.

water is turned, allowing the cold water to circulate in the like manner among the bowls of milk, till the cistern is filled to near 3 inches deep, when it again escapes through the perforated tube. This operation is continued through the hot weeks of summer, the tap being regulated so as to discharge a constant trickling of cold water, which is of course escaping through the tube at the other extremity, the milk bowls standing in water of the depth of near three inches during the whole of the summer season. I am thus enabled to allow my milk to remain two or three meals (24 to 36 hours) without becoming sour, and can sell it at the price stated, 1d. per quart. The advantage I gain from this is even greater than what I derive from the increased temperature during winter. These arrangements have been in operation for several years, during which I have occasionally tested the yield of butter, and have always found it similar, varying only from 25 to 27 ounces from 16 quarts of milk, the greatest amount being observed in the month of December last, when it was found to be fully 27½ oz. from 16 quarts. I may here remark that my milch cows are supplied in summer and in winter with food suited to their wants, and to the office they are performing—the production of wholesome and nutritive milk.

Since I adopted this mode of regulating the temperature of my dairy, I have read a lecture given before the Royal Society by Captain CARR, an English gentleman, who resides on an estate which he has acquired in Mecklenburg, in which country the attention of farmers is chiefly directed to the production of butter, which is their main source of money returns, and where, as appears from Captain C.'s description, the arrangements of the dairy, with regard to the production of butter, are carried out with the greatest perfection, and in which regulation of the temperature is one of the chief aims. Captain CARR states that by artificial heat they effect a temperature during winter of 60°. Now, with my present means, I am not able to attain more than 52° to 55°, but as I have not, during summer, when the temperature in my dairy sometimes exceeds 60°, found a great proportionate yield of butter, I am led to conclude that the degree of temperature I have stated, 52° to 55°, enables me to acquire the whole of the butter which the milk contains.

Since the foregoing remarks were penned, I have had another opportunity of observing the effects of a lower temperature on the yield of butter. During the keen frost of February my main water-pipes, though laid more than two feet under ground, were reached by the frost, and my supply of water completely stopped. My mode of increasing the temperature by hot water was suspended. The thermometer in the dairy denoted 45°. My yield of butter was again tested, and found to be about 20 oz. from 16 quarts, or for every four rolls of butter, with a temperature of 55°, I had only three rolls from a like quantity of milk, with a temperature of 45°. I now noticed a current of cold air from the crevices along the side of the wooden shutter placed inside the trellis window, of sufficient force to extinguish a lighted candle when held near it; I therefore caused another shutter to be fastened to the outside of the trellis, with a space of four inches between, which space I packed closely with straw. From this simple, inexpensive contrivance, aided by the fire from the adjoining kitchen, the temperature of my dairy rose to 50°; the amount of the outlay was more than compensated by the increase of butter from the first churning. My observations on dairy husbandry tend to the following conclusions:

That on a range of dairy cows of similar breed in different stages, some with a full yield of milk, and others with a less quantity or longer after calving, supplied with suitable food and with no excess of watery element, the composition of the milk will be uniform, or nearly so, as far as regards the production of butter, and probably as regards that of casein and other components. That the quality of the cream varies considerably, without influencing the comparative yield of butter from a like quantity of milk.

That the proper adjustment of the temperature is of the greatest importance on the comparative production of butter. By a series of carefully conducted experiments at varying temperatures, I am of opinion that a correct scale of the comparative yield of butter at different temperatures might be arrived at. The following may be taken as an approximate to what the result would be: From a very low degree of temperature, little or no butter; from a temperature of about 38°, 16 oz. from 16 quarts of milk; ditto 45°, 21 oz. from 16 quarts of milk; ditto 55°, 26 to 27 oz. from 16 quarts. 18 quarts 1 gill of cream churned on the 12th of March yielded 450 oz. of butter—nearly 25 oz. per quart; temperature of dairy 50°, without appliance of hot water. On perusing several treatises on dairy produce, I find the proportion to range from 12 oz. to 16 oz. of butter from a quart of cream; what I now state appears nearly double the ordinary proportion. —*Y. in Agricultural Gazette.*

SOWING PEAS IN CIRCLES.—It is a great error in those persons who sow the rows of tall growing peas close together. It is much better in all those sorts, which grow six or eight feet high, to have only one row, and then to leave a bed ten or twelve feet wide for onions, carrots, or any crops which do not grow tall. The advantages which will be derived are, that the peas will not be drawn up so much, be stronger, will flower much nearer to the ground, and in wet weather can be more easily gathered without wetting you.

But instead of sowing peas in straight rows, if you will form the ground into circles of three feet diameter, with a space of two feet between each circle, in a row thirty feet long, you will have six circles of peas, each nine feet, in all fifty-four feet of peas, instead of thirty, on the same extent of ground.

If you want more than one row of circles, leave a bed of ten or twelve feet before you begin another.

For the very tall sorts, four feet circles will afford more room for the roots to grow in, and care must be taken, by applying some tender twigs, or strings, to prevent the circles from joining each other.

This method is equally applicable for scarlet beans. —*Household Receipt Book.*

Horticultural Department.

CONDUCTED BY JOSEPH FROST.

NOTES UPON THE WEATHER, &c.

At the time of writing this (May 21st,) we are able to note somewhat the effects of the past winter upon trees and plants in this vicinity. All kinds of of fruit trees, excepting Peaches, seem to be uninjured; and unless something unforeseen should occur, we shall have a large quantity of the different kinds of fruits the coming summer and autumn.

It was published in many journals that all Peach trees were killed; in large orchards containing hundreds of large sized trees, a living one could not be found; every person who owned a Peach tree examined it minutely; the buds appeared to be black and shriveled, the wood and bark discolored—hence they must be dead. The fact is, that probably not one person in a hundred ever before noticed the branches of a Peach tree immediately after it had passed through a winter, therefore they would be unable to perceive the difference in appearance between those this spring and in former years. Last year an immense quantity of Peaches throughout Western New York were grown, thousands of baskets, more than ever was produced before in one season. Still, during March of last year, the wood and bark of all Peach trees exhibited much the same general appearance as they did this season, but notquiteas brown, and fewer black spots, yet we had enormous crops. Still the cry was, the Peach trees are all killed—and some even commenced to cut down their orchards indiscriminately. A friend has just informed us that his neighbor, living in the town of Penfield, is cutting down his trees because they are dead, although leaves are pushing out all over the trees. Everybody has said so and so, therefore it must be true; and when asked if he could not believe his own senses, he was so stubborn or so ignorant as to say that the shoots would wilt and drop as soon as the sap in the tree was exhausted.

We regret, however, to say that the Peach crop is to all appearance wholly destroyed in Western New York for this season. In some localities Peach trees have been killed outright, but they are very few. We also hear of some orchards planted last fall of yearling trees that are killed to within two or three feet of the ground.

In the ornamental way, we had standing in different places Deodar Cedars, and the Cedar of Lebanon, unprotected, both of which seem to have withstood the winter well. Neither the former nor the latter will retain its green foliage during any of our winter months, as it will become a brownish red and drop as the new foliage pushes out the following spring. The *Cryptomeria Japonica* has suffered more than either of the above, as they appear to be so much injured that they will not survive. We have noticed the new plant *Dielytra Spectabalis*, which remained out last winter. It has thrown up the most vigorous shoots, and being perfectly hardy, must become a general favorite, with its beautiful specks of rose-colored flowers. It requires the same treatment as the herbaceous *Pœonies*, as it is tuberous rooted; and like the *Pœonia* too, it resembles it in foliage.

Dwarf and Tree Box were very badly discolored this winter, as well as young plants of English and Irish Yews; large plants however, of both of these were not injured. Two very fine specimen plants of golden-barked Weeping Ash were killed outright. We have made many notes of other things which we may speak of hereafter, connected with the effects of our severe winter.

TREATMENT OF TREES AFTER PLANTING.

Thousands of trees and plants have been planted by orchardists, farmers, and owners of village lots last autumn and spring. All are in hopes that they may grow, rewarding them for the money they have expended, by being generous of their shade, exhibiting beauties in their most attractive forms, and giving n the greatest profusion the most beautiful and luscious fruits. This is the ardent desire of every one who plants; but how few there are who realize it As a whole, probably not one half of the trees that are planted live and grow for two years in succession; certainly one-fourth do not indicate signs of life at the end of the first season. Thousands of dollars are wasted wholly by neglect and inattention to the wants of the trees. The cause is easily shown, and the effect is every where apparent. Very much depends upon the preparation of the soil before planting, and considerable in the manner of setting out, pruning, &c., to insure the ultimate success of the tree. It is now too late for this season to profit by any remarks we can make under these heads, and our desire is that some may be *benefited* in our remarks, who have transplanted trees this season. Otherwise the party who furnished them, or the nursery from which the trees may have come, receives the whole blame, while the fault lies wholly with himself.

Our summers are dry and hot—so much so that under ordinary circumstances, if there were nothing else to contend against, the season would require the plants' utmost strength. *Mulching* is extremely beneficial, and is performed by placing coarse manure, partially decayed leaves, chips or spent tan-bark, upon the surface of the ground and about the stem of the plant; not one shovel-full only, but at least a bushel to every orchard tree. This keeps the ground moist, and protects it from the sun during the summer, which is far better, and less trouble and expense than to pour water about the roots of the plants. If water is used, the ground will surely become hard and compact, if of the least tenacious character, unless it has turned upon it the mulching material.

Contrary to all instructions, many trees are put out in sod land, or are upon ground sowed to grain, without leaving a space about the collar of the plant. The succulent and vigorous roots of the grasses and the other plants, absorb the whole strength of the soil, as well as the moisture which otherwise would have been taken up by the fibres of the tree to produce its leaves and branches. The importance of the subject demands that immediate attention should be given all trees and plants which are thus situated. Mulching material of some kind is easily obtained, and a circle say with a diameter of at least four feet, should be spaded up and kept free from weeds during the summer. But very little time is required to perform it all, and you will before the season is past, witness the benefit derived from such care. Staking had better be done now, if not done before. This is performed by sewing straw or flexible shoots to a stake driven firmly into the ground, and so made as to reach the lower branches. Straw or pieces of cloth may be placed between the stake and the tree to prevent chafing.

CURCULIO.

Mr. Editor:—The opinion that universally prevails, that the Curculio lays in the ground during the winter, is not always correct; at least it has proved so in a single instance that has come under my own observation. We presume, however, that a large proportion of this destructive insect's posterity is preserved through the winter by remaining under the surface of the ground—but the exception to this case, to which I now refer, is somewhat singular.

Last fall I picked up some small hard apples, and laid them in a pile on grass ground, for fall feeding; and when the early deep snow came, a few remained there, and being covered with grass and snow, were sound this spring. On the 10th of April I cut one open, and to my great surprise, my old enemy, the Curculio appeared before me in full view, large as life. The insect appeared to be perfectly developed in all its parts, except that the outer wings were a little shorter than common. From appearance I should judge it had not assumed the insect form but a short time, as the cavity around the case was not large. J. D. C.

Locke, N. Y., April 10, 1855.

REMEDIES FOR THE BLACK KNOT AND CURCULIO.

Mr. Editor:—I have heard much said and have read several articles on the black knot on cherry and plum trees. Having set some of all kinds of young trees, my next care was to preserve them. The knot (so called) made its appearance on my neighbors' treess everal years before mine were affected, and I used every inducement to have something done to them, but to no effect. When these trees began to die, mine commenced knotting very bad. The first year I cut them off; but the next year the knots increased two-fold. I then examined them and found worms about half an inch in length in many, whereupon I cut them all off and burnt them. The result was the next year but few appeared, and they were served the same way. My trees were saved and are now thrifty. These branches should be cut as soon as they make their appearance, say the last of May, and through June, and burned before the insect matures.

I will give you a little of my experience with the curculio. For several years all of my plums were destroyed by this insect, excepting on one tree. This I observed was where washing water (soap-suds) was poured out—and this tree never failed of bearing abundantly every year. I then concluded to try soap-suds around other trees; and the result last year was, every tree thus watered bore abundance of fruit, while all those not so treated did not mature a single plum; and although early in the season they hung full of fruit, it all dropped when half grown.

Spencer, N. Y. G. W. H.

GARDEN MEMORANDA.

Crystal Palace, Sydenham.—On Monday last, everything was being put in as complete a state as possible for the reception of the distinguished personages who were about to honor the building and gardens with their presence. In the center transept a dais was being erected, which was to be profusely ornamented with plants in flower, and the latter we understood were also to be liberally introduced throughout the building. As regards plants perma-

nently turned out into the beds we have to report that they have stood the winter uncommonly well. The only one apparently killed is a large Pimeles decussata, near the entrance at the west end. One or two other things have also had their leaves a little browned; but altogether the injury sustained is extremely trifling. Acacias and Camellias have been flowering freely until within these last few days—whose heat and brilliant sunshine have driven them very much out of blossom. The large Indian Azaleas that have been planted out seem to have become perfectly established and are covered with flower-buds, which, when expanded, cannot fail to produce a striking effect. The huge Epacrises bought at Mrs. Lawrence's sale and elsewhere have also taken well in their new situations; they promise to yield a fair crop of flowers, as well as furnish themselves this year with young wood. The two noble Norfolk Island Pines (Araucaria excelsa,) from Chatsworth, in the centre of the building, are especially worthy of notice; and those presented by her Majesty are likewise in excellent condition. The Bourbon and other Palms planted in front of the Roman Court, the fan-like leaves of which give to this cool part of the building quite an exotic appearance, have also wintered safely, with the exception, perhaps, of Ceroxylon Andicola, which has been nearly killed, even where Cocos plomosa, and things usually considered equally tender, have stood. The handsome Rhopala corcovadensis is unhurt, and Sparrmannia africana is now in flower, the latter emitting a by no means disagreeable fragrance.

All the tubs containing the large Orange trees have been painted green, and the naming of the plants throughout the building with proper labels has been commenced. The tops of the labels employed are made of wood—square, with the two upper corners cut off—and are furnished with iron spikes for fixing them in the soil. The name is written with white lead on a bright blue ground. The increased interest which this will give to the gardening part of the decorations needs, we think, no comment.

The creepers on pillars have for the most part begun to break strongly, and in a week or two the large Wistaria from Messrs. Loddiges will be in flower. The baskets suspended from the roof have been top-dressed, and the plants in them trimmed and put in order for the season.

In the aquariums, which are well stocked with water plants, we remarked thriving examples of Victoria regia. The vases round the water are well filled with things in flower, and the small round basins, out of which these vases with their pedestals rise, contain beautiful collections of Hyacinths, early Tulips, and other forced bulbs, which have been (and deservedly) much admired. Early Tulips and a few Hyacinths are also planted out in the beds, and serve to keep up a considerable amount of gaity at this season until other plants come into flower.

The more tender Palms, Orchids, and other plants in the warm end of the building have, on the whole, done well. The Musas have suffered most; these have lost their leaves, but they are now beginning to push new ones. The Mangosteen has been tried here, but without success.

Out of doors the grounds may be said to be fast approaching completion. The great centre walk has been put into shape almost down to the boundary fence, where it is to terminate in a kind of temple. Below the lakes a row of Deodars has been planted on either side of it. They measure from 8 to 10 feet in height, and stand some 40 feet apart. The water towers for supplying the fountains are nearly built; one is quite ready for the reservoir on the top, and the other is very nearly in as forward a state. It is expected that the fountains may be ready to play in June next. The water temples have been completed, and are ready for coloring; the cascades leading from them to the great lakes in the lower part of the grounds have been made, and the lakes themselves are ready to receive the iron piping for the fountains. On the rising ground beyond these noble pieces of water are to be seats surrounded by handsome stone balustrades. From these resting places, overlooking as they do the lakes below, a front view of the cascades, the water temples and the palace beyond them will be obtained, as well as a sight of most of the more prominent features of the park. The high ground behind where the geological illustrations have been placed, and indeed the whole of the hill face opposite the lakes and islands where the extinct animals are, has been planted, and is traversed by walks, which pass here and there over rustic steps, or wind among scenery of a semi-wild character; here a kind of massing system has been followed, Lilacs, Rhododendrons, Thorns, Arbutuses, Cotoneasters, Gorse, Heath, Broom, &c., having been planted in distinct groups so as to give breadth of effect, due regard being paid at the same time to harmony of color. Specimen Conifers and other trees which are intended to form part of the Arboretum have also been planted in places where they will be seen to the best advantage. Passing still further round towards the Anerly side an extensive and extremely well managed root-work has been formed on the little hill which hides the railway station from the park. Here, in addition to Rhododendrons and other flowering shrubs which have been planted among the rough rustic looking roots, have been introduced such plants as Squills, Primroses, Wood Anemones, Foxgloves, and things of that sort which are so beautiful in early spring, and which are naturally looked for in situations of this kind. A large rockwork is also in course of formation on the other side of the park in the hollow below Sir Joseph Paxton's house; and on a natural knoll a little further on, on the same side, a kind of temple is to be built with glass roof and sides of open lattice work suitable for training climbers on. This will form a companion to the Rose temple on the opposite side, which has just received some additions in the shape of rapid growing climbers, so as to give it a temporary covering till the Roses get up a little.

From what has been stated above our readers will perceive that with the exception of filling the lakes and basins with water, planting the islands where the antediluvians are, gravelling some of the walks, and turfing or sowing with fine lawn-grasses the still bare portions of the grounds, little now remains unfinished.—*Gardeners' Chronicle and Agricultural Gazette.*

WHITLAVIA GRANDIFLORA.

A specimen of this fine plant was exhibited last summer at Chadwick, by Messrs. Veitch, and it is certainly the gem of the season in the class of hardy annuals. It will no doubt be as hardy as a Phacelia or Eutoca, the latter of which it resembles in its foliage, but then its brilliant blue flowers are as large as those of a Campanula, and much finer than anything else of the kind. Mr. W. Lobb found it in California, on the mountains of St. Barnardino; but it was originally discovered in that country by the late Dr. Coulter. Dr. Harvey, who first described the plant, naming it after Francis Whitla, Esq., dis-

WHITLAVIA GRANDIFLORA.

tinguished two supposed species, *grandiflora* and *minor*; but we entertain no doubt that they are, we do not say varieties, but states of the same plant. We had both of them in flower on our table from Messrs. Veitch, at the same time. The fact seems to be that the plant when in great health is *grandiflora*, and when weak, from a shady place, *minor*. Dr. thought they might differ in the form of the scales which stand at the base of the stamens; but we found those scales varying in form from being acutely bifid to being entire and wedge-shaped with the angles rounded off.

ACACIA MARGINATA.

R. Brown. (*Alias* A. trigona *Alph. De Condolla.*) A handsome green-house shrub, with dark green leaves, and bright yellow blossoms appearing in April. Native of King George's Sound.

This is known in Gardens as *A. celastrifolia major*, under which name the plant from which our drawing was made was exhibited by Messrs. Henderson & Co., of Pine Apple Place. Its long narrow curved phyllodes (leaves,) shorter spikes, and downy ovary,

ACACIA MARGINATA.

amply distinguish it from that species. To *A. myrtifolia* it approaches much more nearly, as Mr. Bentham has remarked; it seems indeed to be distinguishable only by its longer and more falcate leaves and more downy ovary. As to the *A. Marginati* of gardens, we believe it is more frequently *A. celastrifolia* itself than anything else.—*Horticulturist.*

Correction does much, but encouragement does more. Encouragement after censure is as the sun after a shower.

Ladies' Department.

CONDUCTED BY MRS. C. P. T., RICE LAKE, C. W

RURAL EDUCATION.

MRS. EDITRESS:—It seems to me that the remarks of that sturdy farmer, Mr. HUFF, are so *plain* and *hard-working* that they may admit of some modification which will render them a little more fair, and insure a more salutary influence. I will ascribe to him the credit of having manifested much candor in expressing his opinion, but I am not quite sure that he is so much opposed to fashionable bonnets, gay ribbons and piano rattling as one might conclude. And I will venture to say, that one might elicit even from his mouth, expressions of admiration of a beautiful pin-cushion or chair bottom, if wrought by the dexterous fingers of a dairy-maid. Although it is admitted that in the present age the method of training adopted for daughters (and for sons too) is yet teeming with error, we rejoice to see that light from the avenue of science, of poetry, of music, and of the fine arts has at length begun to dawn, shedding its ennobling and refining influence upon the farmer's sons and daughters. Our talents are various, to be improved and rendered back with interest; who, then, can say which is the greater sin, to improve what I may here term the "hard-working" talents, to the neglect of the finer sensibilities and of the love of what is decorative in nature and in art, or vice versa. Shall we not seek rather to improve each and all of them, until we shall have brought them to the highest state of perfection which our circumstances will admit. To be educated for farmers' wives, the daughters should be versed in chemistry, anatomy, philosophy, and mathematics, which would greatly assist them in the culinary department, and by enabling them to proceed understandingly, would render the performance of such duties rather a pleasure than a task. In short, a knowledge of everything denominated science would tend to fit them for more practically scientific housekeepers; and how infinitely would such knowledge enhance their influence as wives and mothers. Knowledge is power. There have been many, very many excellent wives and mothers to whom such knowledge was as a sealed book; and how deeply do they now regret that such opportunities as are enjoyed by their children and childrens' children could not have been theirs. An acquaintance with the natural sciences tends to the cultivation of a devotional spirit, by leading the mind from "Nature up to Nature's GOD," and nothing, more than a knowledge of astronomy will enlarge the apprehension of the immense power of GOD, the magnificence of his creation, and his own transcendent grandeur. Had the ancients paid no attention to the motions of the heavenly bodies, historical facts would have been given without dates, and we should have had neither dials, clocks, nor watches. Will any one in this age say that so much knowledge would unfit them for affectionate wives, and for the solemn responsibility of training and giving bent to the immortal mind? I trust not—even Mr. HUFF himself; nor would he "care a fig" if they did walk just before a fashionable bonnet with a little lace on behind, provided they would diligently practice what they had learned. They may work hard, practice domestic economy, and all that, and yet be able to tell the origin of Pegasus, how he produced the fountain Hippocrene, and by whom the Po was styled the king of rivers. They may shade their worsted to a nicety, prepare a turkey for the spit, and know that it was Hesiod who wrote the first poem on agriculture. If they may calculate the number of yards required to carpet a floor, may they not with as much propriety calculate an eclipse? Again, if she may demonstrate a problem by carving a chicken, then why not, for a change, demonstrate one on the blackboard, according to EUCLID; then darn stockings, rock the baby, or do anything that occasion requires. The difference is this: while the first problem would furnish food for the body, the latter would only discipline the mind Now, a well disciplined mind and good calculation are no detriment to a farmer's wife. All of these objects might be accomplished by *working hard.* Would it not be a monopoly of a most aggravating character to assign all farmers' daughters to become farmers' wives? Why, Mr. HUFF, there's many a student of Esculapius and of Blackstone, knights of the yard-stick, and mechanics who would find fault with you for that. They all want good wives, (and who blames them for it?) and if the daughters of farmers are going to be hard-workers, highly educated and accomplished, one might occasionally be picked away to be the light and dignity of the drawing-room. Such an one would be very far from despising an educated plowman for his occupation, or a husband for his poverty in this world's goods, if he were possessed of intellectual riches. When daughters shall be thus educated, they will no longer shrink from appearing beside a city belle because they cannot feign to flirt and say soft things with a thick tongue. On the contrary, a true ap-

preciation of their own worth and their native good sense will dictate to them how to appear at all times, and in all places. I am waiting patiently to hear about the woman who wore that bonnet. I have the happiness to subscribe myself

A Farmer's Daughter,
XENIA.

A SCHOOL INCIDENT.

MANY years since, while teaching in the pleasant village of L——, in the Western part of this State, I chanced to have among my pupils an active, intelligent, yet mischief-loving lad—a genuine son of Erin. Early left by the death of his parents to depend on himself alone, he enlisted my sympathy and interest. He went very well through the rules of addition and subtraction, but multiplication was a puzzle. 4 times 4 would make 8, and 5 times 5 make ten; and it was some time before he comprehended the difference between the sum of two numbers and their product. The point was at last reached, and not till then was his interest fairly aroused in his studies. One evening I directed him to take his book home and learn what he could of the multiplication table, and learn it thoroughly. The next morning Mr. B., his employer accosted me with "What new study have you introduced into school?" "None that I am aware of," was my reply. "I think you have," said he. "How so?" "Last evening Thomas came home and with much earnestness asked my assistance in getting his lesson. Cannot Alfred [his son] aid you? 'Oh! Alfred says his eyes are sore, and he is tired and sleepy.' 'Well, what is it?' 'Mr. A. is very anxious that we should all learn the *mortification* table by heart. Will you help me learn it?'"

We have often indulged in a hearty laugh at the remembrance of this incident; yet are not some of our youth who have advantages far superior to this lad learning the same table? and will they not reap its bitter fruit? We know of an instance in this city of a young man who had every advantage that wealth and friends could give. When ready to commence business, capital was furnished, an intelligent and lovely girl became his wife, and all that to human view was necessary for happiness and prosperity was theirs. But the habit of using the intoxicating bowl ere long marred every fair prospect, and he sacrificed everything dear in life—wife, children, friends, money and reputation—and now, an inmate of the work-house, his is another name in the list of intemperance.

IN conversation, confidence has a greater share than wit.

SUMMER TREATMENT OF GREEN-HOUSE PLANTS.

IT is important for the future success of most of the winter flowering green-house plants, to get them out in the open air as soon as possible, consistent with safety from all danger of cold winds and frosts. This is important from two considerations; the first of which is, that the space is wanted, or should be, under good management, for the various kinds of plants now growing, to keep it gay during the summer months. Another and very important reason is, that if kept in the house with the pots exposed to the atmosphere, it is scarcely possible to keep the plants from suffering for the want of water; besides which, the longer they are kept in the house, the more etiolated and tender the growth, and hence, when turned out, they are illy prepared to withstand the effects of the hot sun.

If due attention is paid to the plants now and during summer, a good deal may be done in forming nicely shaped plants, and preparing them for their winter's work. It is unquestionably a fact, and becoming more and more practiced upon, that all the plants usually cultivated (with but few exceptions) are quite capable, other things being attended to, of standing with impunity an American summer's sun. A little reflection would seem to point this out as self-evident. Ascertain their natural habitats, and it will be found that the sun shines there, and on the foliage too. A little examination of the structure of the plant will show it needs both sun and air. Practical experience teaches the same lesson also.

Another very prevalent evil is the huddling of them together in such close quarters. There is some tangible reason for doing so during winter, when a small space has to contain the whole collection, but none whatever in summer. They should stand far enough apart each way to afford ample room for the plant to grow, and space to get among them besides. Select a spot as open to the sun, especially the morning sun, as possible; if sheltered from the driving winds, it will be an advantage. All the plants gone out of flower, should be cut back pretty close, and cleaned of any scale, mealy bug, or other vermin that may infest them; repot those in small pots to larger ones, and plunge the pots to the rim; place a piece of slate, tile, or some cinder ashes under the bottom of the pot, to keep the earth worms out. Those intended not to be potted should have an inch or two of the top soil taken off and a little fresh added. If it is desirable to increase in size some of the plants, as cuttings struck this spring for instance, plant them out altogether in some nicely prepared soil, say turfy loam, and peat earth, equal parts, with one-quarter of its bulk white sand. Any of the New Holland plants will increase to at least six times their present size before summer is over. All of the beautiful family of Heaths do finely this way, but require to be kept from the pelting rains, or the next day's hot sun will occasionally destroy some of them. They will need no shelter from the sun, except now and then for an hour or two when the thermometer gets over 90°, but even this should be with caution, or they may receive more injury than benefit. Camelias and Daphnes are the only plants we shall keep from the sun, and they will be taken out of the house when the flower buds are set, and placed under the shade

of trees. Azaleas are all the better kept in the house till their growth is completed; except in the case of very large plants, which may be turned out with the rest, where they will be sure to perfect their flower buds, but not add so materially to their size. Every other plant which is cultivated here of the winter-flowering green-house kinds, will be placed out of doors by the 15th or 20th of this month, (May,) plunged, but fully exposed to the sun.—*E. Sanders in Country Gentleman.*

PRESERVATION OF TREES ON TOWN PLATS.

If we mistake not, ladies of taste and sentiment are interested both in the preservation of trees on town plats and near their rural homes, and in the production of cheerful and lovely groves; and therefore we place in their department of our journal the following, copied from the *Horticultarist:*

In all parts of the Western States are springing up towns that grow with great rapidity. Some of these are destined to rival the Atlantic cities in population and importance; many others will become second class towns of note, while a still greater proportion, though destined to an humbler rank, have still an equal interest with their more fortunate neighbors in attaining and preserving a character for pleasantness and beauty.

The sites of many of these towns are beautiful beyond description. Nature has spent centuries in growing and perfecting for their adornment the most graceful and most magnificent forest trees. She has diversified the surface with hill, and plain, and dell; she has sent sparkling rivulets among the woods, and festooned the trees with the ivy and the grape. The oak, and the elm, and the maple, mingle their diverse beauties together, while modestly beneath their shade are to be found the less ambitious but scarcely less indispensible trees that are needed to complete the picture.

Unfortunately the founders of new towns are apt to be people who fail to appreciate sufficiently such beauties. They are men whose thoughts are bent on speculation, and who find their highest and almost only enjoyment in the rapid acquisition of wealth. They call around them to build their houses, dig their canals, and construct their railroads, a population principally of needy emigrants; transient persons, who go to and fro with the demand for labor, and who, having no permanent interest in the place, are only anxious while they remain in it to use as little as possible of their dollar-a-day in current expenses. Among such a population a tree is of no value, except as it may be turned into lumber or firewood. Robbery of the woods is universally esteemed fair plunder, and while the Yankee is stealing from the forest its best timber, the Irish and the German laborer is cutting his fuel from the remainder, with an equal disregard of titles and of division lines.

During the present season I have occasionally spent some time in the outskirts of the town from which I write, and which is a sample of many such places. But although it has suffered severely in the manner alluded to, it is not yet so unfortunate but that, if the evil be now checked, a considerable portion of its natural adornments will remain. The front of the town is already denuded of its trees, but elsewhere, in the direction of its growth, and in close proximity to its building, are still to be found forest trees in great variety. Magnificent oaks—the growth of centuries—have stationed themselves at little intervals in all directions about the city. These oaks, if properly appreciated, are invaluable; for they give us, ready grown, such grand old shade trees, as generations must wait for from our own planting.

A younger growth of oaks in great variety is also here to be met with. The white, the red, the black, the white swamp, the scarlet-leaved, the chestnut, the willow-leaved, and perhaps other varieties that do not now occur to me, are here to be met with, and a selection of foreign trees could scarcely be made that would give greater beauty to a place than this family of oaks. These trees are young and thrifty, and have sprung up since the Indians were driven from their hunting-grounds hereabouts, before which time the young growth was kept down by an annual burning over of the openings.

Here also are to be occasionally found the sugar and the scarlet-flowering maple, and the graceful elm is scarcely ever out of sight. The Buckeye is also frequent; the honey locust throws out its long, thorny branches on all sides; the aspen is to be seen in the neighborhood of the stately ash, and now and then a mulbery, with the black walnut, the butternut, the plane, and the linden complete the picture. No! not complete it, for the hickories are all about us—rugged and sturdy, but full of unpolished beauty, and deserving all the better care in their preservation where they have planted themselves, because of the impossibility of transplanting them. The buttonwood, the tulip tree, and the willow, are also to be found in particular localities, and the glossy-leaved thorn, the dogwood, the cherry, the balm of Gilead, and the sassafras in others. The red cedar, that once grew along the banks of the Maumee, has unfortunately been already exterminated, and the lovers of rural beauty mourn its departure as that of a cherished friend. But the list already given is sufficient to show how profusely and variously the ornaments of nature still adorn that neighborhood.

A proper degree of care on the part of the citizens, and the protection by the city authorities of the trees standing along new streets, would give to a town thus naturally favored, a pleasant character and appearance that few places ever attain—and that, too, with little trouble and less expense. It is not necessry to plant, but only to select and save. Evey citizen may build his house under the shade of noble forest trees, and every street may be lined with them in great variety, and of all sizes.

Personal beauty is the gift of nature, but its preservation depends much on the care of its possessor. Beauty may also be cultivated and enhanced; even plainness may be improved, and the defects that sickness, accidents, and age impress on the human features and form, may be greatly remedied by simple means, and attention to a few important rules.

A mittened cat was never a good mouser.

Editor's Table.

THE GENESEE FARMER—ITS MISSION.—Mr. WRIGHT, the talended and independent editor of the *Prairie Farmer*, in an article justly commendatory of LUTHER TUCKER, Esq., the oldest agricultural editor and publisher in the United States, says: "His old GENESEE FARMER, published at Rochester, was a paper of note in its day, and it has been the real parent of the whole Northern brood of similar name and purposes."

Mr. WRIGHT might have added that this "real parent" of so many valuable agricultural papers, gave to both Mr. J. J. THOMAS and Mr. JOSEPH HARRIS, the associates of Mr. TUCKER in conducting the *Country Gentleman* and *Albany Cultivator*, their first lessons and position before the public in the editorial profession. Journals of agriculture and horticulture, without professionally instructed conductors, are generally worthless concerns; while thoroughly educated men always reflect credit on the institutions in which their intellects were primarily developed and cultivated. It is as an educational institution that the GENESEE FARMER is entitled to great credit for turning out such men as the affluent and accomplished editor of the *Horticulturist*, and its enterprising and successful publisher. Others might be named who made the FARMER office their agricultural school, and who have profited largely by the excellent tuition received of this "real parent" of so much rural knowledge and literature.

But we do not care to exhaust this feature of the GENESEE FARMER, lest we be constrained to admit that its present humole proprietor, first known as an agricultural student through its pages, has been honored in a distant part of the Union with the only liberally endowed chair of agriculture in any American university.

The FARMER has a national reputation, an historical character, which no extraneous influence can shake or impair. When it came into the hands of its present owner, in company with another, it contained but sixteen pages, and had a small circulation. Without increasing its price, it was first enlarged to twenty-four pages, and then to thirty-two, and finally, we now incur the additional expense of stitching and trimming every number sent out of the office. The paper being about twice its original size, and costing more per pound, and other incidental expenses being greatly enhanced, its prime cost per volume is now some three times as large as it was ten years ago; while the work is still sold to clubs at *thirty-seven and a half cents a volume*. When the FARMER was first printed by steam power, wood was sold in this city at $2,00 per cord: now it costs $7.00. The writer remembers the time when farmers in Western New York sold wheat at 37½ cents a bushel; yesterday (May 9th,) a Rochester miller told us that he had just paid $2.62½ a bushel, for 10,000 bushels of this grain. At this price, a single bushel will pay for *seven volumes* of the oldest agricultural journal in the State. We have seen potatoes sold this spring at $3.00 a bushel, and have paid $1.25 for corn.

A majority of farmers being consumers and purchasers of agricultural staples at high prices, instead of sellers, the general scarcity is no benefit to them as a class; but it is a powerful stimulus for every man who cultivates as much as ten rods of land, to acquire all the information he can with a view to augment its fruitfulness. Every number of the Farmer contains rural knowledge worth to a reader of common sagacity, more than a year's subscription.

It is the only paper of its size, and class, and price, in the world, but what is made up from the *old matter* of some other paper. Every line in the *Genesee Farmer* is set up expressly to subserve the best interests of its patrons, and for its pages alone. This never-varying singleness of purpose, looking to its intelligent readers exclusively for support, has contributed much to impart both character and power to the work. It needs, however, more subscribers; and its proprietor, who regards it as having an important mission yet to fulfil, respectfully asks every reader of this article to send him one more name, with the pay, for volume sixteen, second series, of "the real Parent of the whole Northern brood of similar name." Reliable as an authority, and designed from the beginning for the million, its conductor expects hereafter to travel much among the best practical farmers on this continent, and in Europe, and examine in person all useful improvements in tillage, husbandry, and domestic economy, with the view of communicating a knowledge of the same to the public. The rural literature of this country, not less than its agricultural, needs reform; and it is a part of the mission of this cheap agricultural journal earnestly to advance the needed reformation. Too many are foolishly attempting to teach a profession which they have never duly studied, and have yet to learn, and are thereby giving currency to errors alike injurious in theory and in practice.

AMERICAN BEEF CATTLE FOR THE CRIMEA.—The Washington correspondent of the Baltimore Sun says: "It is known here that two or three companies at the North are under contract with the foreign governments for large supplies of beef cattle for the Crimea. At the present period of scarcity thus to reduce the stock of our own country to famine prices, is a matter of importance which demands attention, even if no redress can be had."

As the Washington correspondent of the Sun is a well-informed man, and can have no apparent motive to misrepresent the facts of which he writes, this foreign demand for beef-cattle doubtless exists. In view of the great importance of stock-growing in this country, the senior editor of the GENESEE FARMER has taken unusual pains during the last twelve months to investigate the professional labors of the Englishmen, who in the last half of the eighteenth, and the first half of the nineteenth century, have made the farmers of the whole civilized world pay willing tribute to their skill and success in the improvement of domesticated animals. The principles developed, and results of our researches in this department of rural literature, are embodied in an essay of nearly 100 manuscript pages, which was written for another work than this journal. We have, however, concluded to publish it first in the FARMER, and in the six last numbers of volume sixteen, second

series of the present year. We should be glad to illustrate, for the first time in agricultural science, the microscopic organs through which a quart of milk is separated from the blood of a first-rate cow, every hour of the day and night, for months together; and to enable us to make such illustrations, and others needed to explain animal physiology, we desire subscriptions to the FARMER for six months, (if no longer,) at *twenty-five cents* each. For the sum named, the subscriber will receive the Essay complete in the FARMER, from July to December inclusive. Whatever money we may receive for extra copies, will be expended to illustrate both the *science* and the *art* of improving the domesticated animals of the United States.

WIRE FENCE.—At a recent meeting of the Farmers Club, in New York city, a conversation arose on the subject of Wire Fence: Prof. MAPES said he had tried wire fully, and could not keep a fence in order unless there was some plan fixed by the manufacturer to compensate for the change in temperature of a single day.

PAUL STILLMAN related his experience to the same effect. WICKERSHAM'S fence, that was made to screw up tight was very handsome when first built, but it did not last. He saw much wire fence in California, but none of it lasted good over a year. A common plan there, was to mend wire fences with raw hide; that gave a little spring to counteract the contraction.

SOLON ROBINSON gave a description of a wire fence built by Col. CAPRON, between Baltimore and Washington, 3,300 feet long, which was made fast to a well-braced post at one end, and at the other to a bar and spiral springs, the bar being attached to a chain that passed over a drum, with a lever and weight so arranged that the wires were always at the same degree of tension, no matter what was the state of the atmosphere.

Mr. COWLEY, agent of the Lowell Wire Fence Company, exhibited specimens of their fence, which is made by a patent process to resemble netting of twine. This is sold for $1.50 to 2.00 a rod, 3½ feet wide. The objection made to it by Prof. MAPES and several others is, that it has four horizontal wires that will be liable to the trouble of contraction and expansion. If that is not an objection, it is a cheap, good fence.

Gutta percha or India rubber must be combined with the tension of wires at every fastening, to obviate the expansion and contraction, to an injurious degree, of lengthened iron rods.

NEXT to the making of good books, there is nothing more praiseworthy and deserving of encouragement than the effort to bring them within the means of all to purchase. In this view we could name several firms who have done much to benefit the agricultural interests by their publications, and we notice particularly the publications of C. M. SAXTON, of New York. Every kind and description of works on Agriculture, Horticulture, and Floriculture, can be had upon application, at very reasonable prices. We had the pleasure recently of spending a little time in his bookstore, No. 152 Fulton st., and were gratified to find that the prospective demand for agricultural works bid fair to become one of great importance. When Mr. S. announced his present vocation, years elapsed before remunerating sales could be made. The demand for such works had to be created, before booksellers would take them on their shelves, and even now hardly one out of four of the tillers of the soil take the pains to read a good book on their profession; but it is encouraging to know that there are ten readers now to one but a few years since, and by the influence of the agricultural press, we doubt not that ten years hence, hundreds will be readers and *doers* too, to one at the present time.

The reading of any work is not the measure of its utility, unless the mind of the reader labors in unison with the mind of the author, either to examine the grounds of any given statement, or the consequences which follow from the adoption of any given theory. But one can hardly read a good author without deriving benefit thereby, and hence we say thanks are eminently due the makers and publishers of useful books, for whatever class they may be designed.

AGRICULTURAL BOOKS AND SCHOOLS.—Mr. C. G. F., of Newburgh, asks us in a letter to name agricultural books to the amount of $15 or $20, which may be bought and studied by him to the best advantage; and he also desires to know where is the best school for him to attend to learn agricultural chemistry, geology, and botany.

It is easier to name the books than the school which he needs. The works of LIEBIG, JOHNSTON, BOUSSINGAULT, FOX, and other American authors, are the best known in this country from which to learn the principles of agricultural science; and they may all be bought for some $15. On fruit culture, the works of BARRY, THOMAS, and DOWNING, are perhaps the best in the English language.

We know of no school that will suit the notions of our youthful correspondent.

THE RECIPROCITY TREATY.—The following remarks of the *Newark Advertiser*, are copied approvingly, and are going the rounds of the American press in reference to the free importation of breadstuffs and provisions from Canada into the United States:

"The Reciprocity Treaty has had a fortunate beginning. A fairer field to test its qualities could not be desired. Canadian grain and provisions are all wanted, and few will be out of temper if both, especially at the present moment, should arrive in abundance. We are in the midst of a short supply of almost all things edible. This has been the work of several years, till an absolute dearth is upon us. * * * *

"We need help in this emergency from somewhere, and the agricultural products of Canada come in opportunely just at this time. They are seasonable to save us not only from higher prices, but well-nigh from *absolute want*. We have not land enough, it seems, on this side of the water to produce our own food, and so, till more can be annexed or something can be done by our own countrymen to keep us from starvation, we shall be willing that other men may do it. If there is real danger of the continuance of the present exorbitance of prices, or any thing like it, even Cuba, if it only turned out cattle and flour, instead of sugar and tobacco, might be welcome to the Confederacy. Any port in a storm, and any market in a famine."

THE CROPS.—It giver us great pleasure to state that the prospect of wheat and most other crops in Western New York is better than an average. The season is not forward, and wheat may yet suffer from attacks by the weevil, so-called. Should it escape, the harvest the coming summer will richly reward our enterprising farmers.

THE COUNTRY AND THE CROPS.—We do not recollect a season for many years, when on the first day of May the country has looked so beautiful, or the growing crops of wheat, oats, and grass so thrifty, as they do now. Notwithstanding severe cold weather continued until the first week in April, and farmers were fearful of being unable to get half the grain planted that they had been calculating upon, the plowing and planting season is greatly advanced. The three or four weeks of delightful weather, ending in April, were improved greatly, and probably one-third more land was plowed than ever before in Northern Illinois, during the same corresponding period of time. Spring wheat is all in and up so as to cover the ground with its beautiful green verdure. The amount sown is fully one-fourth larger than ever before, and the prospect could not look more favorable. Oats are also harrowed down, and in some cases above ground. The amount put in is not probably more than was put in last year. Corn has not been planted, but farmers are rapidly plowing for it, and, if the weather continues favorable, they will probably close their planting by the 15th instant. How much more ground will be covered with corn this year than last, depends much upon the weather. The high price of the article gives the producer a confidence in the future, as a profitable crop, and no exertions will be wanting to increase the number of acres to be cultivated.

The grass crops promise well. We never have seen clover, timothy, and the wild grasses more advanced this early in the season. During the last few days, grass has grown as if by the power of magic, and if the weather prove as favorable during the next as it has during the past four weeks, the crop will be one-half heavier than last year.

It is scarcely necessary to say that with such flattering prospects before them, the farmers are in the best of spirits. —*Knoxville (Ill.) Journal, May 9th.*

Notices of New Books, Periodicals, &c.

BLACKWOOD FOR MAY. For sale by D. M. DEWEY, Rochester, N. Y.

This interesting Magazine is issued from the press of SCOTT & Co., and presents a table of contents more than usually attractive: The Length of Human Life—Zaidee, a Romance. Part vi.—Poetry of the War, reviewed before Sebastopol—The Campaigns of a French Hussar—Modern Novelists, Great and Small—Notes on Canada and the N. W. States of America—The Royal Scottish Academy—The Cold Shade—The Story of the Campaign.

Inquiries and Answers.

J. W. BRUMBAUGH will find an account of bloody murrain, or red-water, on *page* 268 of the FARMER for 1854.

It is a very fatal disease, and seldom curable. Our writer states that he has seen large flukes taken out of the liver, resembling the common leech, which abounds in many of our swampy lands. In *Allen's Domestic Animals*. It is recommended to put equal portions of salt and slaked lime in one trough, salt and ashes in another, and salt and brimstone in a third; and it is also added that farmers who had lost stock by the disease previously, have entirely escaped its ravages by the above practice.

IS COPPERAS of any value as a fertilizer, or only as a deodorizer? An answer through the GENESEE FARMER will be thankfully received. S. FENN—*Terryville, Ct.*

On most soils, the application of copperas (sulphate of iron,) would be followed by no benefit whatever. When there is carbonate of lime, and a lack of sulphuric acid, the sulphate of iron might be decomposed and form gypsum in the soil, which is a well known fertilizer; but when the cost was counted, it would be found that gypsum formed from copperas involved an outlay two or three times larger than would have sufficed to purchase an equal amount of gypsum in the market.

In short, the iron in copperas is not needed in any of the soils of this country, with perhaps one or two rare exceptions, while the oil of vitriol is cheaper in the mineral called sulphate of lime, (gypsum,) than is any other form. Copperas water is one of the best deodorizers known to be used in the vaults of privies, in manure tanks, and on compost heaps; for the iron parts readily with its acid to form an involatile sulphate of ammonia from its volatile carbonate.

I FEEL obliged by your kind attention to my request with respect to the notice of the price of Italian rye grass seed, and the place where it may be obtained. I would now trespass on your time and attention so far as to ask if you can give any information as to the origin and treatment of a disease in horses here called the big head. I have seen no mention of it in any of the farrier books which have come under my notice. I wish I was able to give a more satisfactory description of the progress of the disease. The seat of it seems to be in the nasal organ, about midway between the eyes and nostrils, where in the first stage a hard lump or swelling appears, which gradually enlarges, accompanied with a slight running of the nostril. The lump is quite hard, as if an ossification were going on. The horse has his appetite, and appears (so I am told, for I have not seen this effect,) to become stiffened in all his limbs. The usual practice, I believe, is to blister, or rub with strong liniment, though a cure seems very uncertain. It seems to be considered not infectious, though I must confess I feel some doubt on that point. As the disease progresses, the whole head becomes greatly increased in size, and in the end death ensues, though the the animal may linger a long while. I should be glad to know what work on horses, cattle, &c., you would recommend as the most generally useful to one who like myself keeps a horse and two or three cows. I think I have seen RANDALL'S, SPOONER'S YOUATT'S, and Dr. DADD'S favorably mentioned in your notices, neither of which I have seen. Perhaps the disease I have named may be described in one or all of them.

I would not have troubled you with this communication, had I known where to look for a notice of the disease which threatens to destroy the usefulness and lives of many valuable animals. I should remark, perhaps, that among our people generally an opinion prevails that the frause of millet, as fodder, causes the disease, and on that account the growth of millet has fallen into disuse. JOHN BENSON—*Rosebank, Peoria.*

IN the April number of the FARMER, I saw an inquiry in respect to chickweed. The best remedy I know of is deep plowing. My wheat the present year occupies two fields; The first was put in early in September, looks well, and is free of the weed. The second, when we commenced stirring in the usual deep way, the landside came off the plow, and rather than stop the labor while the large plow was repairing, we took a small corn plow to stir with, which, owing to its lightness, could not be got to plow as deep as desired. The consequence is that where we plowed shallow, there is chickweed, and where it was plowed deep, it is free. However, one thing is certain, if there is no weed, deep plowing, I think, is much the best. H. R. COTFIELD—*Mercer Co., Pa.*

MARKETS.

NEW YORK MARKET, May 23, 1855.

FLOUR—There was a little better feeling in the market to-day, and prices slightly advanced. The improvement was principally on the lower grades. We notice also some disposition to purchase for forward delivery, but the transactions were checked by the advanced pretensions of holders. Sales 9,000 bbls. at $10.31½ a 10.56¼ for common to choice State; $10.25 a 10.31½ for common to good Ohio; and $11.37½ a 13 for extra Genesee. Canadian, a slight advance was realized on the medium grades—sales 2400 bbls. at $10.50 a 11.37½ for the range of common to fancy and extras.

GRAIN—In view of the limited supply of wheat, and a fair milling demand, holders of parcels on the spot are enabled to realize a shade better prices. There is considerable arrivals, but millers refuse to purchase in anticipation of lower prices Sales 3,000 bushels fair white Canadian, at $2.60, and 1,000 fair white Michigan at $2.65. Rye doing better; sales 3,800 bushels prime northern at $1.68. A considerable portion of Western Mixed Corn now arriving is out of order, and shippers are afraid of it—this fact has a depressing effect upon the market, as distillers are not now purchasing to any extent. Sales reach 78,000 bushels at $1.04 a $1.11 for inferior to prime western mixed, closing with free sellers of latter at $1.08, and $1.12 a 1.13 for white do. and yellow.

PROVISIONS—Pork market has been quite animated. In other kinds of provisions the business was rather limited. Sales 2,800 bbls. at $16.58¾ a 16.75 for old mess—$17.75 for new do.; $16.87½ a 17.00 for thin mess; $18 50 a 15.87½ for clear. Lard easier; sales 400 bbls. at 10¼ a 10¾. Butter 19 a 24 for State. Cheese 7 a 11.

BUFFALO MARKET, May 25, 1855.

FLOUR—There is less demand for flour to-day, but the market is without material change in price; sales 400 bls. common Wisconsin at $9.37½ a 9.50; 200 do. common to extra at $9.37½ a 10.12½; 80 do. choice Ohio at $10.

GRAIN—Wheat in limited request, and market without animation, but prices steady; sales 3,000 bushels Milwaukee at $1.90, and 1,000 red Wisconsin at $2.15. Corn quiet, without change; sales 25,000 bushels at 95c. In Oats, we did not hear of any sales.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

MOWERS, REAPERS, &c.

KETCHUM'S One Horse Mower cuts three feet swath; Two Horse do. cuts four feet eight inches; Allen's Improved Mower; Hussey & McCormick's Reapers, Atkin's Reaper, with Self-Raker attached.

Emery's, Taplin's, Bogardus', Trimble's, and other Horse Powers.

A complete assortment of Agricultural and Horticultural Implements of all kinds; Field and Garden Seeds.

Guano, with Peruvian Government weight and brand marked on each bag; Improved Superphosphate of Lime, &c.

R. L. ALLEN,
June 1—2t 189 and 191 Water st., New York.

HORSE POWERS, THRESHERS, EAGLE FAN MILLS.

ALLEN'S Improved Horse Power—it runs uncommonly easy, and does not require more than half the elevation at the forward end, of other powers.

THRESHERS—Both over and under shot, made in a superior manner.

EAGLE FAN MILLS—*The best and cheapest Grain and Seed Separator made.* The superiority of this Fan Mill consists,

First—In cleaning without a screen, by separating the impurities such as chess, cockle, smut, &c., by the blast alone, consequently saving the loss of the small sound kernels of wheat which must go through a screen.

Second—An arrangement by which a part of the sound and perfect grains are separated from the rest for seeding, leaving the balance in a good marketable condition, so that the farmer need sow only such grain as contains the germ of growth.

Third—Smaller seed, such as grass and clover seed, are cleaned in the most perfect manner.

Fourth—Fans built on this plan will clean grain, both in the first and second cleaning, faster and better than any others now in use.

Fifth—The cheapness and durability of its construction.

R. L. ALLEN,
June 1—2t 189 and 191 Water-st., New York.

IMPORTANT TO FARMERS.

MONNY'S PATENT COMBINED MOWER AND REAAER. The undersigned are now manufacturing the above Machine, which they have great pleasure in offering to the farmers of Canada, and needs only be tried to be appreciated. Price, with two sets Knives, $130. We are also manufacturing Burrell's Reaper, $120; and Ketchum's Mower, two sets Knives, $110.

Newcastle, May, 1855—2t H. A. MOSSEY & CO.

BEES! BEES!!

L. L. LANGSHOTHS'S MOVABLE COMB HIVE.

(Patented October, 1855.)

EACH Comb in this hive is made by the bees on a separate, movable frame, and in a few minutes by the use of a little smoke they may all be easily taken out without cutting them or at all enraging the bees. The practical bee-keeper will see that a perfect control over all the combs must make an entire revolution in bee-keeping; as in this way weak stocks may be quickly strengthened by helping them to comb, honey, or hatching broods from stronger ones; queenless colonies may be supplied with the means of raising another queen; the exact condition of the hive may at any time be ascertained, and the ravages of the bee-moth effectually prevented. New colonies may be formed in less time than is usually required to hive a natural swarm; or the hive may be used as a non-swarmer; or managed on the common swarming plan. The right to use this invention is sold for five dollars, and entitles the purchaser to use and make for his own use in one location as many hives as he pleases. For ten dollars a right and a beautiful hive, glass on four sides, will be sent carefully boxed, to any address. For seven dollars a right and a thoroughly made hive with glass on the back. This hive is made to stand in the open air without the expense of a bee-house. Proper directions for its management, together with a minute account of the habits of the bee are contained in the patentee's work on "The Hive and the Honey-Bee," (384 pages octavo,) which will be sent, postage paid, for one dollar and a quarter. For individual and territorial rights, address

REV. L. L. LANGSHOTH,
June Greenfield, Mass.

PERUVIAN GUANO.

PERUVIAN GUANO No. 1, with Government weight and brand upon each bag. Price $48 per ton of 2000 lbs.

Peruvian Guano No, 1, taken from the lower part of the ship's cargo, a little damp, with above brand upon each bag. Price $40 per ton of 2000 lbs.

Improved Superphosphate of Lime—$45 per ton, of 2000 lbs.

Bone Dust—fine, warranted pure. Price $2.50 per bbl.

A discount when taken in large quantities.

A. LONGETT
June 1—2t 34 Cliff-st. corner of Fulton, New York.

"For Truth—Our Country, and the Slave."

OUR WORLD.

603 PAGES, 12 mo., 10 Illustrations, Price $1.25. That this exciting story should arouse the

LIVELIEST INTEREST AND DEEPEST FEELING,

is natural and obvious—it relates to

THE GREAT QUESTION

which so deeply engrosses the minds and hearts of all our people. Its characters, incidents, and scenes are all

OUR OWN, AND OF OUR TIME.

It is vividly and effectively written; and the Truth of History and the Charms of Romance render its pages at once

CAPTIVATING AND CONVINCING.

It shows the wrongs and cruelties inflicted upon

THREE MILLION SLAVES!

and the bondage in which the Slave-power attempts to hold

TWENTY MILLION FREEMEN!

"As a literary work, it is superior to Uncle Tom's Cabin. It will excite, first attention, and then admiration, throughout the country, and take its place at the head of all recently published books."—*Buffalo Express.*

"We have never read a fictitious story which so completely engrossed one's attention from commencement to end."—*Boston Evening Gazette.*

☞ For sale by all Booksellers.

∴ Copies sent by mail, Postage Prepaid, on receipt of price.

MILLER, ORTON & MULLIGAN, Publishers'
25 Park Row, New York, and 107 Genesee st., Auburn.
June 1—2t.

HENRY C. VAIL,

CONSULTING AGRICTLTURIST, NEWARK, N. J.

WILL visit farms and give suitable advice for their improvement, founded on an analysis of the soil and a statement of its mechanical condition. Letters of inquiry as to terms, &c., will insure a reply and satisfactory evidence as to ability.

REFERENCES.—Prof. Jas. J. Mapes, Newark, N. J.; R. L. Pell, Esq., of Pelham, Ulster Co., N. Y.; J. J. Scofield, Esq., Morristown, N. J.; Hon. John Stanton Gould, Hudson, N. Y.

April 1—tf

DURHAM BULL FOR SALE.

THE subscriber has a yearling Durham Bull, pure bred, good pedigree, for sale.

Nelson, May 9, 1855. P. FISHER.

SEND FOR ONE COPY.

SINGLE Copies of "SEARS' GREAT WORK ON RUSSIA," the most elegant and useful volume of the year, consisting of 700 large octavo pages, embellished with about 200 Engravings, and maps of European and Asiatic Russia, elegantly and substantially bound, will be carefully enveloped in stout paper, and forwarded, AT OUR RISK AND EXPENSE to any post-office, on the receipt of the established retail price—THREE DOLLARS.

☞ AGENTS WANTED in every part of the country to sell New and popular PICTORIAL WORKS. Address, post-paid,

ROBERT SEARS, Publisher,
June 1, 1855. 181 William st., New York.

WM. H. LOOMIS,

WHOLESALE and Retail dealer in Fruit and Ornamental Trees, Plants and Shrubs, of all the leading and most popular varieties. Standard and dwarf trees of Apples, Pears, Plums, Peaches, Cherries, &c., all vigorous, stockey and well formed.

Also, a general assortment of Gooseberries, Currants, Raspberries, &c. &c. Ornamental trees and shrubs of every variety; Roses a large collection; Green House plants can be furnished on the shortest notice. Also a large quantity of Field and Garden Seeds on hand, and for sale at the lowest cash prices. Address (post-paid) Agricultural Rooms, South Bend, Ind.

March, 1855.—tf. WM. H. LOOMIS.

DRAINAGE AND SEWERAGE PIPE MACHINE.

CHARNOCK'S PATENT.

BY this Machine, Drainage and Sewerage Pipes of all descriptions, as well as perforated and other Bricks, Flooring Tiles &c., are molded with the greatest facility and precision.

A man and three boys can turn out from 5,000 to 10,000 feet of pipes per day, according to sizes; and if worked by horse, steam or water power, a proportionate increase will be obtained.

This Machine is in extensive operation in England, where, in addition to the testimony of numerous Tile Makers, as well as that of some of the first Machinists of the day, the following Prizes have been awarded to it:

By the Yorkshire Agricultural Society, at its annual meeting, 1845, as the first Tile Machine with a continuous motion, ... £5 0 0
By the same Society, the following year, as the best Machine of the day, ... 10 0 0
By the Lancashire Agricultural Society, at its annual meeting, 1845, ... Silver Medal.
By the Highland Agricultural Society, at its annual meeting in 1846, as the best Machine, ... 5 0 0

At the meeting of the New York State Agricultural Society, at Saratoga (1853), a Working Model of this Machine was awarded the SILVER MEDAL AND DIPLOMA; and at the Fall Exhibitions the same year of Lower and Upper Canada, held respectively at Montreal and Hamilton, the same Model was awarded a DIPLOMA FROM EACH SOCIETY. It was awarded the FIRST PRIZE AND DIPLOMA at the recent Exhibition in London, C. W.

The price of the Machine is £50 (half cash and remainder at six months), with five Dies for Pipes. Brick and other Dies at a moderate charge.

☞ THE PATENTEE GUARANTEES THE EFFECTIVE WORKING OF THE MACHINE. ☜

☞ All orders to be addressed to

JOHN H. CHARNOCK,
Drainage Engineer, Hamilton, C. W., the Patentee.
January 1, 1855.—tf

NEW CROP OF SEEDS.

FOR the spring of 1855.—The old and well known ROCHESTER SEED STORE, for the last ten years managed by the subscriber, has been removed from 29 Buffalo street to 34 Exchange street, two doors above the Clinton Hotel.

Claiming to know from experience, something of the value to the grower of good, fresh seeds, as well as the necessity of having such kinds as will give the greatest and best return to labor, this branch of the seed business has received special attention, and purchasers may rely on correctness. Our motto is "never knowingly to deceive a customer."

It is our intention to keep all the varieties of seeds desirable to be grown in the Northern States. I shall have the large German Clover, grown by the German Society of Farmers in Erie county. I have sold this large variety of Clover for several years, and it has never failed to give satisfaction.

Fife's or Scotch Spring Wheat, grown in Canada; may be sown as late as the middle of May. Good crops were grown from this variety last year in Monroe county.

Flower Seeds, Bird Cages, Bird Seed, &c.

April—3t JAMES P. FOGG.

MERINO SHEEP.

THE subscriber will sell a few Spanish Merino Sheep—bucks and ewes—of undoubted purity of blood. He will also dispose of a part of his stock of imported FRENCH Merinos.

Gentlemen purchasing from this flock can have the sheep forwarded to the principal Western towns at my risk.

Sept. 1, 1854—tf R. J. JONES, Cornwall Vt.

GENESEE VALLEY NURSERIES.

A. FROST & CO., ROCHESTER, N. Y.,

SOLICIT the attention of amateurs, orchardists, nurserymen, and others about to plant, to their extensive stock of well-grown Fruit and Ornamental Trees, Shrubs, Roses, &c. &c.

The Nurseries are now very extensive, and embrace one of the largest and finest collections in the country, and their stock is far superior to any that they have before offered. It is partly comprised in the following:

Standard Fruit Trees.—Apple trees, eighty varieties; Pear trees, one hundred varieties; Cherry trees, sixty varieties; Plum trees, forty varieties; Peach trees, thirty varieties; Nectarine, six varieties; Apricot, six varieties; and other kinds, comprising every sort of merit.

Dwarf and Pyramid Fruit Trees, of every description, for cultivation in orchards and gardens, have received particular attention. They embrace the following kinds, and comprise nearly the same number of sorts as are grown for standards:

Pears upon the best European Quince stocks.
Apples upon Paradise and Doucain stocks.
Cherries upon Cerasus Mahaleb stocks.

Small Fruits, as Currants, eighteen varieties; Gooseberries, sixty varieties; Grapes, Native and Foreign, twenty-five varieties; Raspberries, six varieties; Strawberries, twenty varieties; and other miscellaneous fruits, as well as esculent roots, in variety.

Deciduous and Evergreen Trees, for lawns, parks, streets, &c.

Evergreen and Deciduous Shrubs, in great variety, including four hundred sorts of Roses.

Hedge Plants—Buckthorn, Osage Orange and Privet; and for screens and avenues, American Arbor Vitæ (White Cedar), Norway Spruce, &c.

Herbaceous Plants.—A very select and extensive assortment.

Green-house and Bedding Plants, of every description.

All articles are put up in the most superior manner, so that plants, &c., may be sent thousands of miles and reach their destination in perfect safety.

Parties giving their orders may rely on receiving the best and most prompt attention, so that perfect satisfaction may be given the purchaser.

The following descriptive Catalogues, containing *prices*, are published for *gratuitous* distribution, and will be mailed upon every application; but correspondents are expected to enclose a one cent postage stamp for each Catalogue wanted, as it is necessary that the postage should be prepaid:

No. 1. Descriptive Catalogue of Fruits for 1854–5.

No. 2. Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c. &c., for 1854–5.

No. 3. Wholesale Catalogue or Trade List, just published for the fall of 1854 and spring of 1855, comprising Fruits, Evergreens, Deciduous Trees, &c. &c., which are offered in large quantities.

October 1, 1854.—tf

FARMERS, ATTENTION!

WE have now on hand and for sale at the lowest cash prices

100 bushels Medium Clover seed,
400 do Timothy seed from Indiana and Illinois,
150 do Red Top seed,
100 do Kentucky Blue Grass seed,
100 do Orchard Grass seed,
200 do Large Marrowfat Peas,
100 do Early June Peas,
200 do Early Kent Peas,
500 do Field Peas, best quality,
300 do Fife Wheat (bald,)
200 do Club do do
150 do Top Onions,
50 do English Potato Onions,
100 do Best Early Potatoes,

And also a full assortment of the best and purest Agricultural and Garden seeds ever offered in this market.

All orders promptly attended to at J. RAPALJE & Co.,
April 1—1t No. 65 Buffalo st., Rochester, N. Y.

FERTILIZERS.

ESTABLISHED NINE YEARS.

KENTISH'S Prepared Guano; price $25 per ton. Superphosphate No. 1—by the New York Manufacturing Company; price $40 per ton. Both these articles can be had at the depot, No. 159 West street, city of New York. April—3t

PERUVIAN GUANO NO. 1,

WITH Importer's brand on each bag, $48 per ton, of 2,000 lbs. Any quantity under one ton 2½ cents per lb.

IMPROVED SUPERPHOSPHATE OF LIME manufactured by Deburgh, Paterson, or Coes, $45 per ton of 2,000 lbs.

BONE DUST, three different varieties, $2, $2.25, $2.50 per bbl.

Poudrette, Plaster of Paris, pulverised charcoal. For sale by

A. LONGETT,
March, 1855.—2t No. 34 Cliff St., near Fulton, New York.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

I. The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
II. Every Lady her own Flower Gardener. Price 25 cents.
III. The American Kitchen Gardener. Price 25 cents.
IV. The American Rose Culturer. Price 25 cents.
V. Prize Essay on Manures. By S. L. Dana. Price 25 cents.
VI. Skinner's Elements of Agriculture. Price 25 cents.
VII. The Pests of the Farm, with directions for extirpation. Price 25 cents.
VIII. Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
IX. The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
X. The Hog—its Diseases and Management. Price 25 cents.
XI. The American Bird Fancier—Breeding, Raising, &c. 25 cts.
XII. Domestic Fowls and Ornamental Poultry. Price 25 cents.
XIII. Chemistry made Easy for the Use of Farmers. Price 25 cents.
XIV. The American Poultry Yard. The cheapest and best book published. Price $1.
XV. The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. $1.25.
XVI. Buist's Kitchen Gardener. Price 75 cents.
XVII. Stockhart's Chemical Field Lectures. Price $1.
XVIII. Wilson on the Cultivation of Flax. Price 25 cents.
XIX. The Farmer's Cyclopedia. By Blake. Price $1.25.
XX. Allen's Rural Architecture. Price $1.25.
XXI. Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
XXII. Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
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XXIV. Johnston's Elements of Agricultural Chemistry and Geology. Price $1.
XXV. Randall's Sheep Husbandry. Price $1.25.
XXVI. Miner's American Bee-Keeper's Manual. Price $1.
XXVII. Dadd's American Cattle Doctor. Complete. Price $1.
XXVIII. Fessenden's Complete Farmer and Gardener. 1 vol. Price $1.25.
XXIX. Allen's Treatise on the Culture of the Grape. Price $1.
XXX. Youatt on the Breeds and Management of Sheep. Price 75 cents.
XXXI. Youatt on the Hog. Complete. Price 60 cents.
XXXII. Youatt and Martin on Cattle. By Stevens. Price $1.25.
XXXIII. The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price $2.
XXXIV. Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price $4.
XXXV. Allen's American Farm Book. Price $1.
XXXVI. The American Florist's Guide. Price 75 cents.
XXXVII. The Cottage and Farm Bee-Keeper. Price 50 cents.
XXXVIII. Hoare on the Culture of the Grape. Price 50 cents.
XXXIX. Country Dwellings; or the American Architect. Price $6
XL. Lindley's Guide to the Orchard. Price $1.25.
XLI. Gunn's Domestic Medicine. A book for every married man and woman. Price $3.
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XLIII. Allen's Diseases of Domestic Animals. Price 75 cents.
XLIV. Saxton's Rural Hand-books. 2 vols. Price $2.50.
XLV. Beattie's Southern Agriculture. Price $1.
XLVI. Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen Price $1.25.

RECENTLY PUBLISHED.

XLVII. The Farmer's Land Measurer; or Pocket Companion Price 50 cents.
XLVIII. Buist's American Flower Garden Directory. Price $1.25.
XLIX. The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.
L. Quinby's Mysteries of Bee-Keeping explained. Price $1.

The above will be sent free upon receipt of price annexed.

RARE AND VALUABLE SEEDS,

BY MAIL, FREE OF POSTAGE.

Orange Watermelon, 16 seeds.....25 cents
Ice Cream or White Sugar Melon, 16 seeds.....25
The genuine Chinese Hoo-sung, 100 seeds.....25
Negley's Seedling Cucumber, 12 seeds.....25
Five-foot Cucumber, 6 seeds.....25
Cherry Pea—new and curious—warranted bug proof, 12 seeds.....25
Citron Nutmeg Muskmelon, 20 seeds.....12½
The celebrated Japan Pea, 20 seeds.....12½
California Muskmelon, 12 seeds.....12½
The Floral King, 12 seeds.....12½

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THE

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